

# **X<sup>0</sup> Categories and Grammatical Case Assignment in Finnish**

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I declare that this thesis has been composed by myself and that the research which is reported herein has been conducted by myself unless otherwise indicated.



## Abstract

One of the theoretical aims of Case Theory is to account for the distribution of morphological case as a realisation of abstract case assignment. Finnish, a language with a rich system of cases, provides some challenging data: in certain sentence types, full DP objects surface in nominative case, but alternate with accusative pronouns in the same environments. In addition, both DP and pronominal objects may also appear in partitive case, depending on the sentential semantics. Since the environments in which these phenomena occur correlates with a lack of subject agreement, the data is particularly relevant to generalisations that attempt capture dependencies external and internal to VP, e.g. Burzio's Generalization and the Unaccusative Hypothesis.

To account for the data, I propose that Finnish shows a Split-S ergative or 'active' pattern, and equate differing grammatical functions with internal vs external argumenthood, respectively. One of the interesting facts about Finnish from a Case-theoretic point of view is that impersonal passives and related constructions show no effects related to 'derived' subjects, i.e. internal argumenthood is signalled by case morphology at all levels of the derivation and agreement is not triggered by movement. To account for this, I argue that the case split surfaces as the result of the assignment of two case features assigned simultaneously to a single argument, the form of which is produced by a set of morphological case realisation rules. This model for case assignment effectively distinguishes between two types of abstract case: objective case is associated with verbal semantics and theta-role assignment, while nominative case is associated with finiteness via the functional head Tense/Mood. The only environment where both case features are assigned simultaneously to a single argument is when an external argument is unavailable to receive a nominative case feature. The distribution of possessive affix agreement and verbal agreement is accounted for as the result of selectional properties of functional heads specified in the lexicon. Finally, I test these hypotheses on data from complex predicates and non-finite clauses.

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# List of Abbreviations

## Inflectional morphology-nominal

### Cases

|       |   |
|-------|---|
| nom   | Nominative                              |
| acc   | Accusative                              |
| gen   | Genitive                                |
| part  | Partitive                               |
| iness | Inessive                                |
| adess | Adessive                                |
| all   | Allative                                |
| ill   | Illative                                |
| ela   | Elative                                 |
| abl   | Ablative                                |
| trans | Translative                             |
| ess   | Essive                                  |
| abess | Abessive                                |
| com   | Comitative                              |
| inst  | Instructive                             |
| pl    | plural number                           |
| sg    | singular number                         |
| Px1s  | first person singular possessive affix  |
| Px2s  | second person singular possessive affix |
| Px3   | third person possessive affix           |
| Px1p  | first person plural possessive affix    |
| Px2p  | second person plural possessive affix   |
| comp  | comparative                             |
| qu    | question                                |
| cl    | clitic                                  |

## Inflectional morphology-verbal

|      |   |
|------|---|
| past | past tense/aspect                       |
| np   | nonpast tense/aspect                    |
| pass | impersonal passive                      |
| cond | conditional mood                        |
| pot  | potential mood                          |
| pcp  | participle                              |
| imp  | imperative                              |
| 1s   | first person singular verbal agreement  |
| 2s   | second person singular verbal agreement |
| 3s   | third person singular verbal agreement  |
| 1p   | first person plural verbal agreement    |
| 2p   | second person plural verbal agreement   |
| 3p   | third person plural verbal agreement    |

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# 1. Introduction

## 1.1 A Brief Overview of Finnish Grammar & Morphology

Finnish is a member of the Fennic branch of the Finno-Ugric language family, a group which includes Hungarian and Estonian as well as a number of related languages spoken by relatively small numbers of speakers in northern and western Russia and in the Baltic region. The Fennic group includes Estonian, Karelian, Veps, Votic, and Livonian; Ugric languages include Mansi (Vogul), Khanty (Ostyak), as well as Hungarian; and the Permic language group includes Komi and Udmurt. Mari and Mordvin are also related. Sami (Lapp) is also a member of this language group, but its genetic relation to Finnish and the Finno-Ugric family as a whole is obscure. The Finno-Ugric family is subsumed by the larger Uralic group, which includes the more distantly related Samoyed languages spoken in the far north of Russia. Language death and extinction are a pervasive problem throughout the Uralic family: Motor became extinct during the last century, while Livonian and Votic are currently spoken by only a handful of native speakers.

Features common to the Uralic languages as a whole include agglutinative morphology, lack of grammatical gender, auxiliary negative verbs, vowel harmony, possessive affixes (Pxes) to mark nominal agreement, lack of articles, and a rich system of locative cases (Austerlitz 1989). It has no morphological future tense but encodes a past/nonpast distinction.

The data examined in this thesis is from written Finnish (*kirjakieli*) only. The grammar of spoken Finnish (*puhekieli*) differs in many respects from that of written Finnish. For instance, written Finnish allows pro-drop, has possessive agreement affixes, uses an extensive collection of nominalised clauses, has prenominal relative clauses, lacks articles and pleonastic subjects, and disallows subjects in impersonal passives. In spoken Finnish, pro-drop is disallowed (Vainikka 1989c), and possessive agreement affixes tend not to be used. Subordinate clauses tend to be formed with finite CPs with an overt complementiser rather than nominalisations, and relative clauses tend to be post-



nominal. The inanimate pronouns *se* and *sitä* are appearing with increasing frequency as both articles and pleonastic subjects. Finally, the historically subjectless impersonal passive has replaced the first person plural paradigm slot in verbal agreement morphology. Despite these differences, unified analyses of both spoken and written Finnish have been attempted, most notably by Vainikka (1989c). The fundamental and systematic differences between the two, however (relative presence or absence of pro-drop, tendency to use prenominal or postnominal relatives, and the presence or absence of articles and pleonastics) suggest that spoken and written Finnish do not share a single grammar, and so require independent analyses. This thesis will examine the data from written Finnish only, because of constraints of time and space, and because native speaker intuitions about written Finnish tend to be more robust and subject to less variation as a result of social and geographical factors. Standard Finnish orthography is used in the data.

### 1.1.1 Morphophonology

Word formation in Finnish is highly agglutinative and largely suffixing, typical of the morphological structure of the Uralic languages in general (Tauli 1966). Morphemic alternations are to a large extent conditioned by two major phenomena, vowel harmony and consonant gradation.

Vowel harmony is visible in most derivational and all inflectional word formation, but not in most compound words. The alternation between the vowels *a* / *ä* and *o* / *ö* (where the umlaut in standard orthography indicates a fronted vowel) is conditioned by the back- or front-harmonic properties of the stem:

- |       |                   |                  |
|-------|-------------------|------------------|
| 1) a. | Kari-lta          | pöydä-ltä        |
|       | Kari-abl          | table-abl        |
|       | 'From Kari'       | 'from the table' |
| b.    | sammu-ma-ton      | selvittä-mä-tön  |
|       | extinguish-nom-un | clarify-nom-un   |
|       | 'unquenchable'    | 'unexplained'    |

c. epä-onni  
un-luck  
'bad luck'

d. herätys-kello  
awakening-clock  
'alarm clock'

The vowels *i* and *e* are neutral to vowel harmony (though a stem containing only neutral vowels triggers front harmony).

Consonant gradation 'weakens' the stem consonant when the syllable is closed with most types of affixal elements (e.g. geminate consonants degeminate, voiceless stops become voiced,  $k > \emptyset$ ,  $nk > ng$ , and certain consonant clusters become geminates):

- 2) a. ranta 'shore'      b. aikoa 'to intend'      c. helppo 'easy'  
rannalla 'on the shore'      aion 'I intend'      helposti 'easily'

Stem vowels can be affected by several morphophonological rules discussed by Nevis (1984:175), one of which raises *-e* to *-i*, another of which shortens *-ee* to *-e*, and the third of which deletes the stem-final vowel:

- 3) a. lumi 'snow'      b. herne 'pea'      c. vanhuus 'old age'  
lume-n 'of snow'      hernee-n 'of the pea'      vanhuu-den 'of old age'

### 1.1.2 Nominal morphology

In the nominal morphological template, affixes typically described as 'derivational', producing a category change or altering the semantics, occur (unsurprisingly) closest to the nominal stem, internal to inflectional morphology. Inflectional morphology is exclusively suffixing and occurs in the following order: stem > comparative/superlative > plural > case > possessive affix. A nominal expression incorporating all of these types of elements except Px agreement is exemplified below. For the sake of clarity the traditional distinction between derivational and inflectional morphemes is retained for the present, and indicated with = and - to mark the respective types of morpheme boundaries.

- 4) epätoivoisempina, 'as more desperate (pl)'

epä= toivo(i)=se<sup>1</sup> -mp -i -na  
 un/no=hope =ADJ -comparative-plural-essive

### *Comparative/superlative*

The comparative marker is -mpa/-mpä and the superlative -impa/-impä.

- 5) punainen 'red'  
 punaise-mpa 'redder'  
 punaise-impä 'reddest'

### *Number*

Plural number in Finnish is signalled by *-t* in nominative and accusative case, and by the suffix *-i-* in all other environments.

- 6) marsu 'guinea pig'  
 marsu-t 'guinea pigs' (nom/acc)  
 marsu-i-ssa 'in the guinea pigs' (inessive)

### *Case*

Finnish typifies Finno-Ugric languages in its proliferation of morphologically distinct case markers. Finnish has four grammatical cases:

---

<sup>1</sup> *se-* is the stem form of the derivational suffix *-nen*, which derives nouns and adjectives, and translates roughly as 'having the qualities of'

| 7) | Case             | Form  |
|----|------------------|---|
|    | Nominative (nom) | zero (lexical form), <i>-t</i> (plural)       |
|    | Accusative (acc) | <i>-n</i> , <i>-t</i> , or zero <sup>2</sup>  |
|    | Genitive (gen)   | <i>-n</i> , <i>-i</i> TEN (plural)            |
|    | Partitive (part) | <i>-ta</i> , <i>-tä</i> , <i>a</i> , <i>ä</i> |

Grammatical case endings are copied to modifiers of the head noun receiving case:

- 8) Tanja näki piene-n ruskea-n linnu-n  
 Tanja saw small-acc brown-acc bird-acc  
 'Tanja saw a/the small brown bird'

One of the primary research aims of this thesis is to account for the distribution of these four cases; Chapter 2 is devoted to a description of the relevant data.

In addition to having four grammatical cases, Finnish has roughly 11 productive or semi-productive semantic cases:

| 9) | Name                | Form                            |
|----|---------------------|---------------------------------|
|    | Inessive (iness)    | <i>-ssa</i> , <i>-ssä</i>       |
|    | Adessive (adess)    | <i>-lla</i> , <i>-llä</i>       |
|    | Allative (all)      | <i>-lle</i>                     |
|    | Illative (ill)      | <i>-Vn</i> , <i>-hVn</i> , seen |
|    | Elicative (ela)     | <i>-sta</i> , <i>-stä</i>       |
|    | Ablative (abl)      | <i>-lta</i> , <i>-ltä</i>       |
|    | Translative (trans) | <i>-ksi</i>                     |
|    | Essive (ess)        | <i>-na</i> , <i>-nä</i>         |
|    | Abessive (abess)    | <i>-tta</i> , <i>-ttä</i>       |
|    | Comitative (com)    | <i>-ine</i>                     |
|    | Instructive (inst)  | <i>-in</i>                      |

<sup>2</sup> *-n*, *-t*, and zero and listed as the three forms of the accusative in most traditional grammars. However, in recent syntactic analyses of Finnish (including the current work), the identity of the *abstract* case represented by these three forms has been the subject of debate. Various proposals from the literature are summarised in Chapter 2. In Chapter 4, *-t* and zero alternating in the same environments are argued to signal the assignment of both nominative and accusative case to an argument.

Modifiers of nouns marked for semantic case agree with the head:

- 10) iso-sta vihreä-stä laatiko-sta  
      big-ela green-ela box-ela  
      ‘from within the big green box’

There is a general consensus in the literature (Hakulinen 1946/1964; Comrie 1976) that the semantic (or locative) cases in Finnish are mostly historically reduced postpositions<sup>3</sup>. Semantic cases in this thesis are glossed as English prepositions when semantically transparent, otherwise with abbreviations for individual cases.

### *Possessive Affixes*

Finnish, like most other Uralic languages, has a separate paradigm of markers to signal nominal and possessive agreement in addition to the verbal agreement paradigm:

- |         |                       |                     |
|---------|-----------------------|---------------------|
| 11) 1s: | minun auto-ni         | ‘my car’            |
| 2s:     | sinun auto-si         | ‘your (sg) car’     |
| 3:      | hänen/heidän auto-nsa | ‘her/his/their car’ |
| 1p:     | meidän auto-mme       | ‘our car’           |
| 2p:     | teidän auto-nne       | ‘you (pl) car’      |

These elements occur affixed to nouns, postpositions, adjectives, and nominalised verbs. Possessive affixes, however, differ from most types of affixal element in that they do not trigger consonant gradation:

- 12) laukku ‘bag’  
      laukkunsa ‘his/her bag’

---

<sup>3</sup> Nikanne (1989, 1991, and 1993) has proposed an analysis of the semantic cases in Finnish in which case affixes are assigned by a phonologically empty head P. However, Nikanne’s analysis presents a violation of the PFLP, a theoretical constraint on representation and acquisition assumed in the current work (discussed in Chapter 4) which bars nonovert heads; in this thesis the agreeing of heads and modifiers for case will be assumed to be an instantiation of generalised agreement within a phrase via feature percolation.

This fact about possessive affixes is discussed further in Chapter 5, where it is argued that Pxes are structurally distinct from verbal agreement, cliticising rather than affixing to the host.

### 1.1.3 Adpositions

Finnish is primarily postpositional, but also has a small number of prepositions. Postpositions co-occur with genitive pronouns (13a, b) and possessive affixes (13c):

- 13) a. laatiko-n takana / edessä / ympärillä  
 box-gen back / in front / around  
 'in back of/in front of/around the box'
- |  |                                     |
|--|-------------------------------------|
| b. äidi-n luokse<br>mother-gen to<br>'to mother' | c. luokse-mme<br>to-Px1p<br>'to us' |
|--|-------------------------------------|

Prepositions appear to assign partitive case to their complement nouns; Vainikka (1989c:143) suggests that partitive case is the structural default case for the complement of category P.

- 14) a. ilman sanakirja-a  
 without dictionary-part  
 'without a dictionary'
- b. vasten puu-ta  
 against tree-part  
 'against the tree'

### 1.1.4 Verbal Morphology

The verbal template is analysed in greater detail later in section 1.2.2 of this chapter, when the individual constituents of Finnish INFL are analysed and functional heads posited for a subset of inflectional affixes. In addition to negation and auxiliaries,

which occur as separate words, the basic template for the verbal stem consists of non-varying positions for derivational morphology, tense/mood morphs, and agreement:

- 15) uiskentelin, 'I swam around'  
 ui- skentel- i- n  
 swim- deriv/iterative- past- 1s/agreement

Tense, mood, and agreement markers are discussed in greater detail in the section below in the structure of the Finnish IP.

### *Pro-drop*

Although verbal agreement morphology in written Finnish is rich, with a distinct morphological marker for each paradigm slot, the omission of coreferential personal pronouns is actually only allowed in the first and second person. Omission of third-person pronouns while retaining a personal pronominal (i.e. non-generic) reading is generally ruled out:

- 16) a. Mene-n nukku-ma-an  
 go-1s sleep-nom-ill  
 'I'm going to sleep'  
 b. ??Mene-e nukku-ma-an  
 go-3s sleep-nom-ill  
 'He/she's going to sleep'

Certain verbs do allow the third person pronominal subject to be dropped, but the interpretation is generic rather than pronominal:

- 17) California-ssa voi surfa-ta  
 California-in can/3s surf-inf  
 'In California one can surf'

Written Finnish may therefore be classified as partially, but not exclusively, pro-drop.

### 1.1.5 Word order and Configurationality

The configurational/non-configurational taxonomic distinction among languages traditionally considers a number of general linguistic features, including relative freedom of word order, possibility of pro-drop, the presence or absence of pleonastic NPs, overt NP-movement, discontinuous expressions, the relative richness of case systems, and the (morphosyntactic) complexity of verbs and auxiliaries (Hale 1982). According to these criteria, written Finnish appears to show several properties typical of non-configurational languages: generally free word order, rich case system, a lack of pleonastic elements, and pro-drop is allowed. The rich case system and pro-drop in Finnish have already been discussed. Word order in Finnish is relatively free in that given a simple transitive sentence, all six word order permutations are possible. Finnish word order facts are, however, quite complex: constituent order has been argued to be to a large extent discourse-conditioned (Vilkuna 1989) or constrained by licensing of certain positions (Vainikka 1989c). A general tendency to fill the preverbal 'subject' position (spec(IP) or T) with lexical material has been noted by Vainikka (1989c) and Vilkuna (1989). Word order can also be quite restricted in non-finite constructions and complex predicates. These constructions are discussed in detail in Chapter 6. In most of the literature on Finnish, the basic, unmarked word order is taken to be SVO.

In addition to free word order, pro-drop and a rich case system, another typical property of non-configurational languages (Hale 1982) is a lack of pleonastic NPs. Unlike in English, Finnish unaccusatives, weather verbs and raising verbs do not require pleonastic subjects:

- 18) a. Asema-lle saapu-i        juna.  
       station-to arrive-past/3 train  
       'There arrived a train at the station'
- b. Sata-a    lun-ta.  
       Rain-3s snow-part  
       'It's snowing'



- c. Näyttä-ä, että Olli-lla on uusi ystävä  
 seem-3s that Olli-adess is new friend  
 'It seems that Olli has a new friend'

Van Steenbergen (1990) uses 5 tests to determine the status of Finnish as configurational or non-configurational. Assuming standard GB principles such as the Binding Theory and the existence of asymmetrical, hierarchical X-bar phrase structure, she adopts a syntactic model of non-configurational languages. In this model, the tree structure of non-configurational languages is not completely flat; subject-object asymmetries and c-command relations hold at Lexical Structure, or LS (as introduced by Hale 1983). The main difference between configurational and non-configurational languages, in this view, is that the Projection Principle applies to configurational languages and ensures that arguments present at LS are also present at PS: in non-configurational languages the Projection Principle is vacuous (Chomsky 1981:133-4), i.e. the principle holds at LS only. Furthermore, in a non-configurational language both c-command and precedence are relevant at PS for syntactic operations.

The first test used by van Steenbergen to determine whether or not Finnish shows subject-object asymmetries is a test for coreferential interpretation. The following sentences illustrate relevant binding facts involving third person Finnish Pxes (discussed in greater detail in Chapter 5). Steenbergen assumes that third person genitive pronouns can be dropped, leaving the possessive affix bound with *pro*. In the following pair, the possessive affix is coreferential with the main clause subject only when the genitive pronoun is omitted:

- 19) a. Anna<sub>i</sub> rakasta-a häne-n<sub>j</sub> kissa-a-nsa  
 Anna love-3s her-gen cat-part-Px3  
 'Anna<sub>i</sub> loves her<sub>j</sub> cat'  
 b. Anna<sub>i</sub> rakasta-a *pro*<sub>j</sub> kissa-a-nsa  
 Anna love-3s *pro* cat-part-Px3  
 'Anna<sub>i</sub> loves her<sub>i</sub> cat'

The sentences below, however, illustrate that the omission of the genitive pronoun is restricted to certain environments:

- 20) a. Häne- $n_i$  kissa-a-nsa Anna $_j$  rakasta-a  
 her-gen cat-part-Px3 Anna love-3s  
 'Anna loves her cat'
- b. *pro* $_i$  kissa-a-nsa Anna $_i$  rakasta-a  
*pro* cat-part-Px3 Anna love-3s  
 'Anna loves her cat'
- c. Häne- $n_i$  kissa-a-nsa rakasta-a Anna $_{ij}$  ( $i = j$  or  $i \neq j$ )  
 her-gen cat-part-Px3 love-3s Anna  
 'Her cat loves Anna'
- d. \**pro* $_i$  kissa-nsa rakasta-a Anna- $a_j$   
*pro* cat -Px3 love-3s Anna-part  
 'Her cat loves Anna'

Assuming a Principles and Parameters-based approach, the data presented above is straightforwardly accounted for by assuming that third person pronouns are pronominal, and cannot be locally A-bound, while *pro* is an anaphor, and must be locally A-bound, a hypothesis consistent with the principles of the Binding Theory.

However, van Steenbergen argues that in a non-configurational approach, all of the relevant facts cannot be accounted for in a model where the relations of c-command and precedence hold at PS only. In an analysis of Finnish as a non-configurational language, it could be stipulated that the third person genitive pronoun must be free, and *pro* bound, at LS, where Binding Principles A and B hold; however, the following data causes problems for Binding Principle C in a non-configurational approach:

- 21) a. Anna- $n_i$  kissa rakasta-a hän- $tä_i$   
 Anna-gen cat love-3s him/her-part  
 'Anna's cat loves her'
- b. Hän $_i$  rakasta-a Anna- $n_j$  kissa-a  
 S/he love-3s Anna-gen cat-part  
 'S/he loves Anna's cat'
- c. Anna- $n_i$  kissa-a hän $_j$  rakasta-a  
 Anna-gen cat-part s/he love-3s  
 'S/he loves Anna's cat'

In a non-configurational approach, both precedence and c-command hold at PS. (20b) and (20c) show that a coreferential pronoun may precede a proper noun, while in (21b) a coreferential pronoun also c-commands its proper noun antecedent. The only way to account for the data might be to restrict proper nouns from being both c-commanded and preceded. However, this hypothesis would fail to account for why *Annan* and *hän* are not coreferential in (21c); the proper noun is c-commanded but not preceded by the pronoun, so a coreferential interpretation should be possible. In a configurational approach, the data can be accounted for easily by appealing to Principle C. According to Binding Principle C, *Annan* in (21a) is not c-commanded by *hän*, and *hän* is not locally A-bound by *Annan*, so a coreferential interpretation is possible. In (21b), the pronoun c-commands its antecedent, so a coreferential interpretation is ruled out.

Van Steenbergen employs four other tests of this type, including a test for bound variable interpretation involving data from WCO (Weak Crossover) and SCO (Strong Crossover); data from VP-idioms; tests for superiority in sentences with 2 wh-elements; and finally tests involving long wh-movement. In all cases, accounting for the data within a nonconfigurational approach proves difficult or impossible, while straightforward analyses are available within a configurational approach. Her conclusion, that Finnish be analysed as a configurational language, is adopted as an underlying assumption about the grammar of Finnish in the current work.

## 1.2 Functional Categories and the Structure of the Finnish IP

### 1.2.1 Properties of Functional Heads

Following Abney (1987), Baker (1988), Pollock (1989), and subsequent work, e.g. Ouhalla (1991), non-lexical elements (e.g. DET, TNS, AGR, NEG) are assumed to project in the syntax as functional heads, according to the principles of X-Bar Theory developed in Chomsky (1970) (as formalised in Haegeman 1991:95):

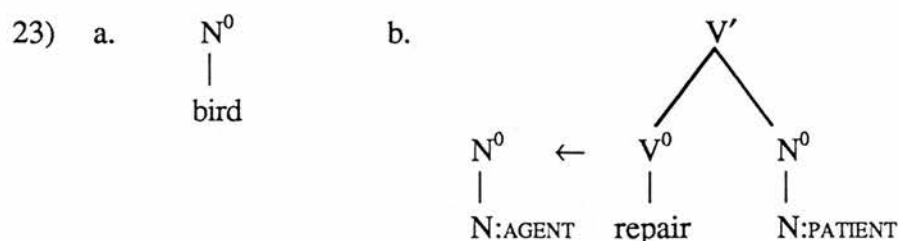
- 22)  $X'' \rightarrow \text{spec}; X'$   
 $X' \rightarrow X'; YP$   
 $X' \rightarrow X; YP$

Underlying this functional head hypothesis is the notion that inflectional morphological processes operate according to similar principles as syntactic processes. Bound morphs projecting in the syntax attach to a lexical stem host via Head Movement (Baker 1988) or via cliticisation if the element projects in a specifier position; this process is described in greater detail in Chapter 5.

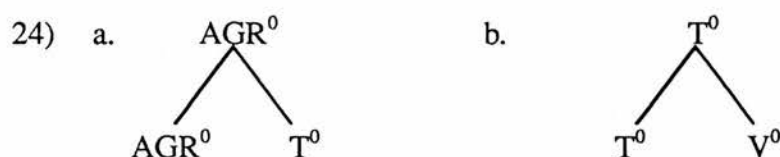
This theoretical shift in focus to the syntactic properties of functional heads allows for accounts of cross-linguistic variation in terms of differences in the order of functional heads, the relative 'strength' of the inflectional features they encode, and their individual case-coding properties (Ouhalla 1991, Tait 1991). If variation is the result of parametrization within a relatively small set of functional categories, then fewer language-specific rules are required to account for various case and word order phenomena.

Another approach in which the number of syntactic principles and constraints specified by UG is reduced even further is a model developed by Cann and Tait (1989), Tait and Cann (1990), Tait (1991), and Cann (1993). The approach draws on aspects of the Principles and Parameters framework combined with theoretical proposals from Categorical Grammar and GPSG. Cann and Tait propose that all relevant categories, functional and contentive, in a given language may project according to the rules of X-bar. Furthermore, as this generalisation extends to all bound as well as free morphs, the distinction between morphological affixation previously held to occur in the lexicon (as idiosyncratic, derivational morphological processes) and more productive, syntactic affixation such as passivisation and causative derivation is eliminated. All structure dependencies are specified in the lexical entries of all morphemes in a given language, with syntactic structure projecting directly from the lexicon. This model contains no separate module for morphology, inflectional or derivational. Because syntactic relations are held to be encoded in the lexicon, the syntactic principles posited as part of UG are reduced to essentially one, namely X-bar. Syntactic structure is determined by the properties of functional categories specifically.

Lexical entries encode c- (categorical) and m- (morphological) selectional properties which underlie syntactic structure. These relations may be represented schematically as lexical trees, following Tait (1991); trees can be simple or branching. Superscripted 0 indicates a zero-bar (lexical) level of representation:



Argument structure is encoded at the lexical level<sup>4</sup>, and it is assumed that all categories display compositional semantics. Complements selected project directly from the lexicon as complements. Functional heads have the same relations specified in their lexical entry, providing a structural mechanism for the building of extended projections of contentive elements based on selection:



Because the c-selectional properties of AGR and T(ense) in (24) are encoded lexically, no parameter-setting is required to regulate the ordering of inflectional morphemes in a given language. Cross-linguistic variation thus arises as the result of lexical variation, eliminating the need for a set of parameters specified within UG.

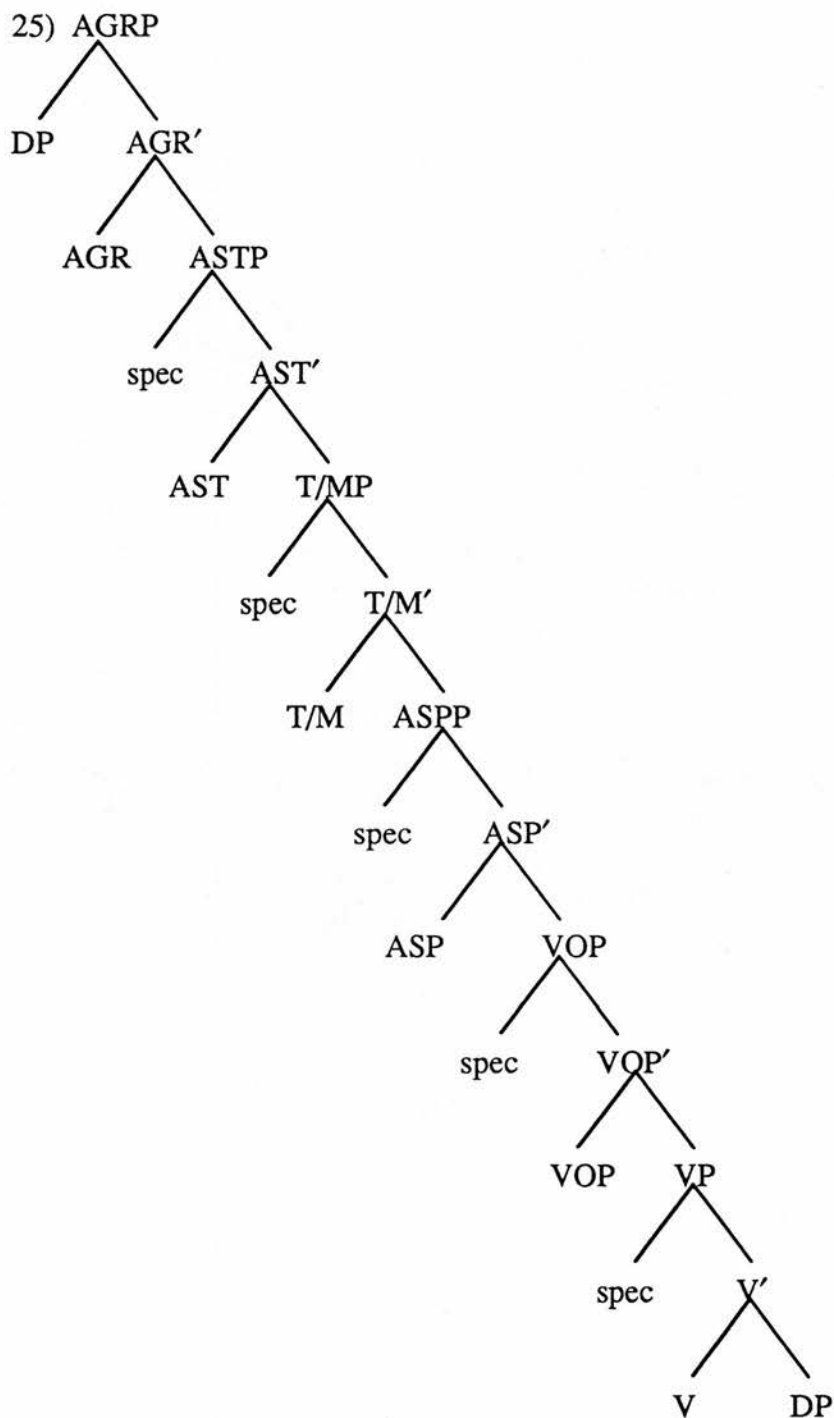
### 1.2.2 The Structure of the Finnish IP

Since it is argued here that functional heads play a role in the assignment of case, it is necessary at this stage to make explicit the assumed structure of the Finnish IP. Two recent studies (Mitchell 1991a and Holmberg et al 1993) have explored this area of

<sup>4</sup> However, in section 4.4.2 it is argued that verbs may not theta-mark complements until D-structure.

research and have reached reassuringly similar conclusions; the agglutinative morphology of Finnish and the wide range of inflectional categories which appear overtly as affixes allow a relatively straightforward analysis, if proposals involving the syntactic projection of affixes such as those of Baker (1988), Pollock (1989) and Ouhalla (1991) are adopted.

The structure of INFL proposed by Mitchell (1991a) posits separate projections for the following functional categories: Agreement (AGR), Assertion (AST), Tense/Mood, Aspect, and Voice, with the subject NP in spec(AGRP):



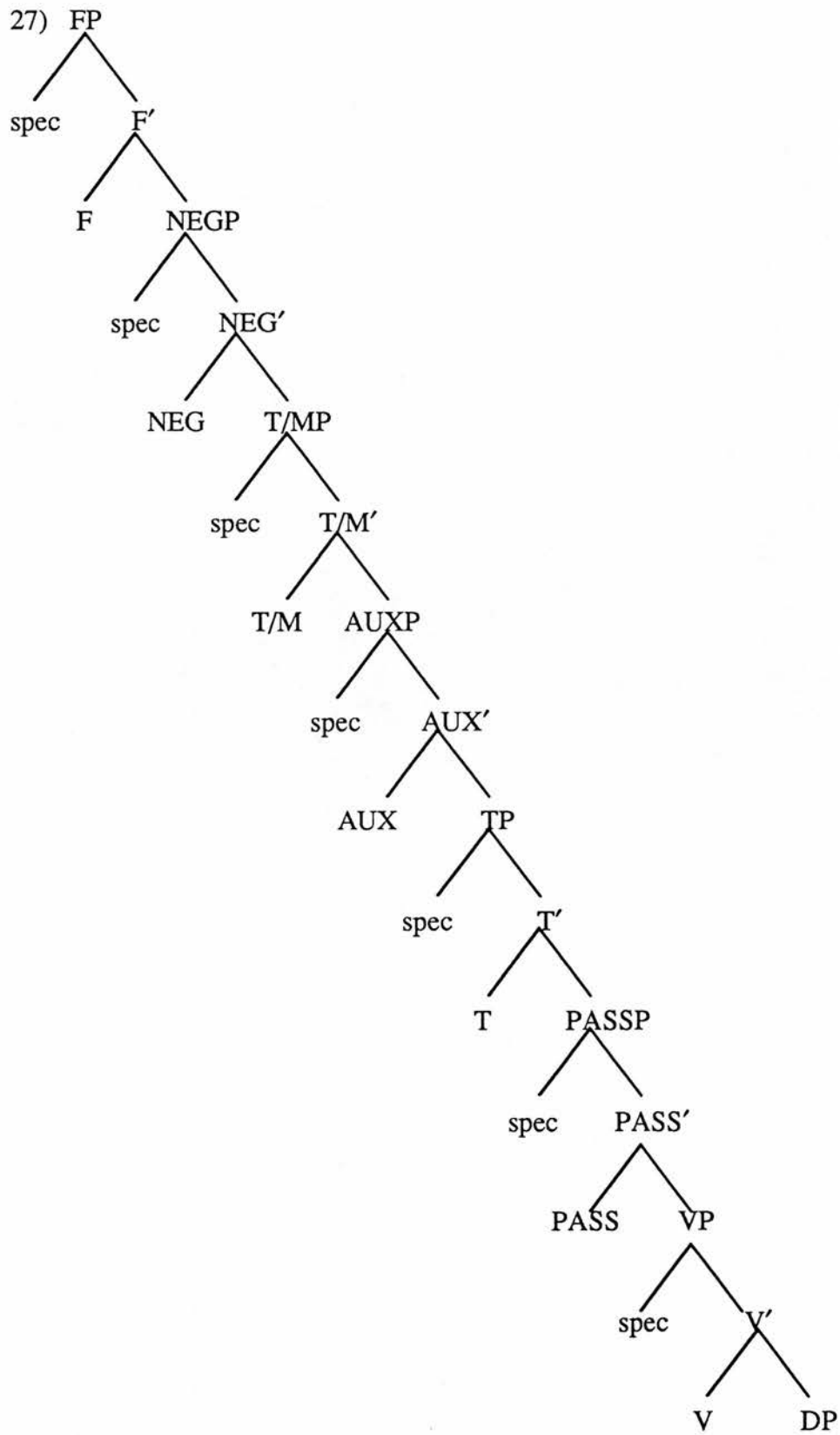
Mitchell (1991b) also proposes a slightly expanded version of the above phrase structure for Finnish, with the functional head Obligation (Obl), supported by the functional category Modal, projecting between AGR and Neg (equivalent to AST in Mitchell 1991b).

A similar configuration of functional heads for Finnish has been proposed by Holmberg et al (1993). This paper assumes a constraint on representation, repeated below (Holmberg et al 1993:178):

26) A head-chain must have overt morphological realization.

This restriction bars phonologically null instantiations of heads in the structure, and allows heads to be licensed by paradigmatically null elements as well as traces of moved elements, provided they are coindexed with phonologically-realised material. A similar constraint, the PF-Licensing Principle, has been proposed by Cann and Tait (1989), Tait and Cann (1990), Tait (1991), and Cann (1993), and is discussed in greater detail in Chapter 4. Despite their requirement for licensing of head-chains, Holmberg et al propose a structure for Finnish INFL that contains one more functional head (AUX) than Mitchell's, who does not overtly assume such a constraint:





In their model, F represents Finiteness, T/M, Tense/Mood, AUX, Auxiliary verb, T, Tense (=perfective participles), and PASS, Passive. The terminology used in the two papers differs slightly, but the analyses are quite similar. The evidence from both papers for positing each of these functional heads is reviewed below, and a tree posited which adopts aspects of both hypotheses.

### *Agreement and Finiteness*

Mitchell (1991a and 1991b) follows Pollock (1989) in proposing that AGR projects as a functional head in Finnish INFL. The morphological evidence from Finnish for a projection of AGR is straightforward: unlike in languages where agreement is nonovert (e.g. Swedish, Pidgin English), subject agreement in Finnish is overtly realised and comprises a paradigm of affixes signalling 6 permutations of person and number:

#### 28) Verbal agreement paradigm: *Laulaa*, 'to sing'

|            |       |      |                    |
|------------|-------|------|--------------------|
| 1s: minä   | laula | -n   | 'I sing'           |
| 2s: sinä   | laula | -t   | 'You (sing.) sing' |
| 3s: hän/se | laula | -a   | 's/he / it sings'  |
| 1p: me     | laula | -mme | 'we sing'          |
| 2p: te     | laula | -tte | 'you (pl.) sing'   |
| 3p: he     | laula | -vat | 'they sing'        |

Mitchell notes that contrary to Pollock's analysis of the structure of IP for French and English, the morphology of Finnish provides evidence that AGR dominates Tense in the extended projection of V, rather than vice-versa:

#### 29) minä    laulo<sup>5</sup>-i-n I-nom    sing-past-1s 'I sang'

Holmberg et al (1993) argue that finite clauses are dominated by F, Finiteness, which can be licensed by agreement features; they specifically do not posit AGR as a func-

<sup>5</sup> The stem vowel of the verb *laulaa*, 'to sing' is *laula-* in nonpast tense but is conditioned by the affixation of the past tense morph *-i* to trigger a change in the stem vowel to *-o*. This particular phonological rule applies to an entire class of words.

tional head. This motivation for this analysis comes from the Finnish data most relevant to the current work. In certain sentence types where ‘zero-accusative’ (nominative case-marked) objects appear, which is discussed in detail throughout this thesis, the agreement marking on the verb is an invariant default third person singular form (-V in the paradigm above) or -*Vn*:

- 30) a. Peka-n      täyty-y    myy-dä talo.  
       Pekka-gen must-3s sell-inf house-nom  
       ‘Pekka must sell the house’
- b. Naapur-ien      täyty-y    myy-dä talo.  
       neighbour-pl/gen must-3s sell-inf house-nom  
       ‘The neighbours must sell the house’

These sentence types are described in greater detail in the next chapter. In Chapter 3 it is argued that the fact that the agreement morphology on the matrix verb fails to reflect the plural or singular number of the subject signals that AGR in these sentences may be present, but does not reflect a relation of coindexation between the verb and one of its arguments. Sentences like those exemplified above are, however, finite, taking tense and mood affixes:

- 31) Naapur-ien      täyty-i      myy-dä talo.  
       neighbour-pl/gen must-past/3s sell-inf house-nom  
       ‘The neighbours had to sell the house’

Holmberg et al argue that Finiteness (F) is the highest functional head in the maximal projection of V, and that it can be licensed phonologically by either an agreement affix or by a verbal complex such as (30) and (31) above, inflected for tense or mood. Defective (default) third person agreement morphs in their model do not in themselves license Finiteness. AGR in Mitchell’s analysis always projects, presumably licensed by these morphemes. Mitchell’s terminology for verbal agreement (AGR) is adopted in the current analysis, and AGR posited as a functional head licensed by agreement features.

### *Negation and Assertion*

Negation in Finnish in non-imperative sentences is realised by *e-*, a quasi-verbal element which hosts agreement affixes but not tense and mood affixes. In imperative sentences, negation is realised by *äl-*, which hosts a distinct paradigm of affixes signalling the person and number of the imperative addressee. Both Holmberg et al (1993) and Mitchell (1991b) posit a functional head for negation, and both provide strong evidence that it intervenes between AGR and Tense/Mood (the node below Negation): in negated sentences, the verb appears as a bare stem form in nonpast tense or hosts tense and mood markers, and agreement is hosted by the negative element:

- 32) a. E-tte nuku  
neg-2p sleep  
'You (pl) won't sleep'
- b. E-tte nukku-neet<sup>6</sup>  
neg-2p sleep-past/pl  
'You (pl) didn't sleep'
- c. Äl-kää naura-ko!  
neg-2p laugh-imp  
'Don't laugh!' (plural addressee)

Holmberg et al note also that adverbs which have sentential scope over FP (AGRP), e.g. *aina*, 'always', must be adjoined to a position between Tense/MoodP and FinitenessP, given the word order in sentences such as (33) below (data from Holmberg et al 1993:196):

- 33) Jussi ei aina ol-isi valitta-nut sii-tä  
Jussi neg always aux-cond complain-ppc it-abl  
'Jussi wouldn't always have complained about it'

Mitchell (1991a) terms this projection "Assertion" and argues that it projects to signal assertion/negation polarity in all sentences, as evidenced by the fact that negation and the passive 'agreement' marker *-An* appear in complementary distribution:

<sup>6</sup> Past participles such as *-neet* do reflect plural vs singular number; however, this is never interpreted in the literature as full subject agreement, since agreement for person is not signalled.

- 34) a. Ikkuna           ava-ta-an  
       window-nom open-pass-An  
       'The window will be opened'
- b. Ikkuna-a     ei       ava-ta  
       window-part neg/3s open-pass  
       'The window will not be opened'

She concludes that *-An* in passives represents the non-negative polarity instantiation of the functional head Assertion. Furthermore, in Mitchell's analysis Assertion projects in all clauses, actives and passives.

However, diachronic evidence indicates that the *-An* (*-Vn*) element is historically a Possessive affix (Hakulinen 1946/1961:157), analysed in Chapter 5 as being category AGR. Considering this fact it is not surprising that *-An* occurs in complementary distribution with Negation, patterning like verbal AGR in this respect. An analysis of the *-An* element in passives as default third person agreement similar to defective markers in modal verbs such as *täytyä* (as in ex. 31 above) is also consistent with traditional grammars, but removes the justification for a universally-occurring functional element Assertion. Holmberg et al's terminology (NEG) will therefore be adopted.

### *Tense and Mood*

Mitchell (1991a and 1991b) and Holmberg et al (1993) concur that Tense and Mood in Finnish conflate in a single functional head Tense/Mood (T/M), and they present similar arguments for positing this functional head. The morphological evidence is clear: preceding agreement in non-negated sentences is a slot in the morphology for the tense and mood markers, which cannot co-occur.

### Past/Nonpast Indicative

The affix *-i* preceding agreement signals imperfective past tense. A zero morph in the same slot signals nonpast tense plus indicative mood:

- 35) a. Isoisä syö<sup>7</sup> kala-a.  
 grandfather eat-3s fish-part  
 'Grandfather is eating/will eat some fish'
- b. Isoisä sö<sup>8</sup>-i kala-a.  
 grandfather eat-past-3s fish-part  
 'Grandfather ate some fish'

The active participial morphemes -NUT and -VA (interpreted as future tense) are posited as allomorphs of the past/nonpast tense affixes -i/Ø by Holmberg et al; in negated past tense sentences, the past/nonpast distinction is realised as a participle on an auxiliary stem and the agreement appears on the element of negation:

- 36) a. Minä men-i-n kauppa-an eilen.  
 I-nom go-past-1s shop-to yesterday  
 'I went to the shop yesterday'
- b. Minä e-n men-nyt kauppa-an eilen.  
 I-nom neg-1s go-pcp/past shop-to yesterday  
 'I didn't go the shop yesterday'
- 37) Aili korja-a ikkuna-a.  
 Aili-nom repair-3s window-part  
 'Aili is repairing the window'

In a later section it is proposed that the participle -NUT can also project as Perfect (PERF).

### Conditional and Potential Moods

Two nonindicative mood markers, conditional *-isi* and the (increasingly infrequent) potential *-ne/-nne*, appear in the same position affixed to V:

<sup>7</sup> In word-final position (i.e. when first and second person agreement affixes are not present) the present indicative tense marker is realised as a glottal stop word-finally or by a lengthening of the following consonant. 35(b) above is thus pronounced 'söikkalaa'.

<sup>8</sup> The diphthong *-yö* in the verb stem undergoes a phonological stem change to *-ö* conditioned by the affixation of the past tense morph.

- 38) a. Sinä tunte-ne-t Aili-n jo hyvin.  
 you know-pot-2s Aili-acc already well  
 'You may/probably already know Aili well'
- b. Mi-hin matkusta-isi-t, jos sinu-lla ol-isi paljon raha-a?  
 where-ill travel-cond-2s if you-adess be-cond a lot money-part  
 'Where would you travel, if you had a lot of money?'

These mood markers cannot co-occur with indicative past tense marker *-i-*:

- 39) a. \*tunte-ne-i-t                      \*tunte-i-ne-t  
 know-pot-past-2s                      know-past-pot-2s
- b. \*matkusta-isi-i-t                      \*matkusta-i-isi-t  
 travel-cond-past-2s                      travel-past-cond-2s

Furthermore, Mitchell (1991a) notes that conditional and potential mood morphology cannot co-occur with lexical elements signalling tense without an auxiliary (in a separate projection) to support a perfective participle, indicating that Tense and Mood share a projection:

- 40) a. \* Syö-isi-n keitto-a eilen  
 eat-cond-1s soup-part yesterday
- b. Ol-isi-n syö-nyt keitto-a eilen  
 be-cond-1s eat-ppc soup-part yesterday  
 'I would have eaten soup yesterday'

The fact that (40b) is possible rules out a hypothesis that the Mood-Tense co-occurrence restriction is semantic.

### Imperatives

The imperative mood in Finnish is expressed by a 'bare' weak-grade verbal stem in the second person singular; the historical imperative marker *\*-k* is overtly realised in a paradigm of 'agreement' suffixes which signal the person and number of the imperative referent in four of the six possible paradigm slots:

41) From *ottaa*, 'to take'

|                          |                            |
|--------------------------|----------------------------|
| 1s: (no form)            |                            |
| 2s: Ota (sinä) se!       | 'Take (sg. addressee) it!' |
| 3s: Otta-koon (hän) sen! | 'Let him/her take it!'     |
| 1p: Otta-kaamme (me) se! | 'Let us take it!'          |
| 2p: Otta-kaa (te) se!    | 'Take (pl. addressee) it!' |
| 3p: Otta-koot (he) sen!  | 'Let them take it!'        |

In the second person singular form of the imperative, no 'agreement' affix appears. Holmberg et al (1993:185) assume that imperative might be classified as a mood, but do not go into greater detail on the subject. Mitchell (1991b) suggests that the imperative mood marker projects as head of an Obligation (OBL) phrase. Her arguments for this derive from data from negated imperatives, discussed below.

Tense/Mood and Negation

The hypothesised structural relation between Tense/Mood and Negation, that Negation dominates T/M, is supported by the fact that when a sentence marked for nonindicative mood is negated, the negation element hosts an agreement affix, the mood element remains affixed to the main verb, and pluperfect or perfect tense is hosted by an auxiliary:

- 42) a. He ei-vät tietä-ne, että Maija on koto-na  
 They neg-3p know-pot that Maija is home-at  
 'They probably don't know that Maija is at home'
- b. He ei-vät lie<sup>9</sup>-ne tietä-neet, että Maija o-li koto-na  
 They neg-3p be-pot know-ppc that Maija be-past/3s home-at  
 'They probably didn't know that Maija was at home'

If Negation were below T/M, the mood element rather than the negation element would be expected to host agreement.

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<sup>9</sup> *lie-* is a suppletive form of the auxiliary *ole-* (derived from the stem of the verb 'to be') which is restricted in distribution to the potential mood only.

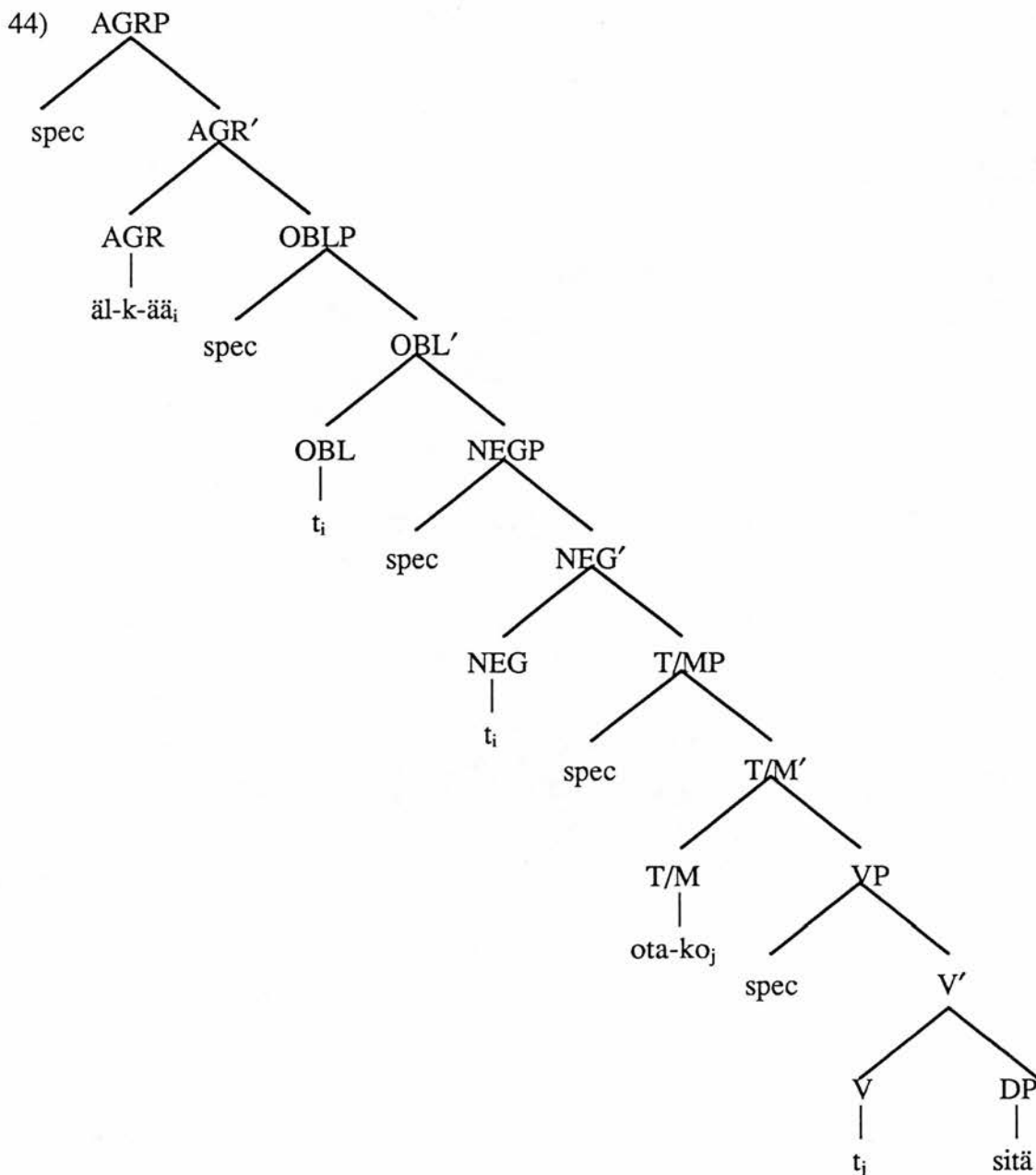


### Imperative Mood and Negation

Mitchell (1991b) specifically does not analyse the imperative as a mood, but as an instantiation of the functional head [OBL] (Obligation) along with the obligational modals *täytyy* and *pitää*. She posits this functional projection as occurring between AGR and NEG, on the basis of evidence from negated imperatives:

- 43) *Äl-k-ää otta-ko sitä!*  
       neg-*k*-2p take-*ko* it-part  
       'Don't (pl. referent) take it!

In Mitchell's model, the imperative affix paradigm given in (41) above projects as AGR (in this case surfacing as *-ää*), dominating OBLP (headed by the imperative morph *-k-*), which dominates NEG (headed by *äl-*), which in turn takes T/MP as a complement:



However, the subdivision of imperative 'agreement' markers such as *-kää* into two components *-k-* and *-ää* is not justified on the grounds of morphological productivity: they do not occur with any other morphs in modern Finnish and so should not be analysed as a separate morpheme. Similarly, the modal verbs of Obligation which she suggests raise to the OBL node are not morphologically marked as distinct from other verbs; their properties of obligation are clearly lexical rather than functional/inflectional as Mitchell suggests.

Holmberg and Nikanne (1993:5) interpret elements such as *-kää* as representing a conflation of imperative and agreement morphemes, presumably projecting as a single element in the syntax. In the same analysis, the *-ko* element is interpreted as an imperative marker. Holmberg and Nikanne's interpretation of imperative agreement elements as single morphological units is adopted here, as is their analysis of *-ko* as an imperative marker. However, if their analysis of the morphology is merged with Holmberg et al's proposed tree structure of IP for Finnish, a problem emerges in that two discontinuous imperative mood markers (and by extension Tense/Mood) project in the syntax, one conflated with AGR as *-kää* and one affixed to the auxiliary as *-ko*. One possible solution to this problem is to analyse elements such as *-kää* as nonheads, which cliticise onto the host NEG. The imperative 'agreement' paradigm occurs in conjunction with the imperative mood but these morphemes do not carry imperative mood features. Instead, the imperative mood in negated imperative sentences projects as *-ko*, an allomorph of the other imperative markers. Additional evidence in support of the hypothesis that *-ko* projects as T/M is presented in the next section on Auxiliaries.

### Auxiliaries

In sentences with pluperfect tense, auxiliary verbal stems *ole-* and *lie-*, 'to be', host Tense/Mood, while the verb appears in a participial form:

- 45) Hanna ol-i rakenta-nut talo-a  
       Hanna be-past/3s build-pcp house-past  
       'Hanna had built a house'

In negative perfect imperatives, the imperative marker *-ko* is hosted by an allomorph of the participle *ole-*, *ol-*:

- 46) Äl-kää ol-ko otta-neet si-tä!<sup>10</sup>  
       neg-2p aux-ko take-pcp/past it-part  
       'Don't have taken it!'

<sup>10</sup> In this example, the imperative might express a wish for a certain state of affairs rather than have a straightforward imperative reading.

(The participle *-neet* which appears affixed to the verbal stem in the example above is analysed as a projection of Perfect in the next section.) The hypothesis presented above that *-ko* projects as T/M is supported by the fact that negative pluperfects are ungrammatical, indicating that *-ko* cannot share a node with Tense:

- 47) \*Äl-kää      ol-i-ko      otta-neet      se!  
      neg-2p      aux-past-ko   take-pcp/past   it-nom

Mitchell does not posit a separate node for AUX but allows auxiliary stems to be base-generated in T/MP with the Tense/Mood affix. Holmberg et al posit a node below T/MP in which auxiliaries (AUX) are base-generated to provide adequate structure to form compound past tenses. In their phrase-structure template for Finnish, AUX projects between T/MP and V, since in sentences like (45) the auxiliary rather than the verb hosts the past tense marker. In support of their argument that auxiliary *ole-* and *lie-* project as heads separate from the main copular verb *olla*, 'to be', they note that auxiliary *ole-* cannot occur in some of the same non-finite clauses which permit main verb *olla*. Holmberg et al suggest that the matrix verbs in such non-finite clauses subcategorise for Tense/Aspect complements (posited in the next section as the functional projection below AUX), a category which includes infinitival verb forms such as *olla*; however, *ole-* projects as a different functional category, AUX, and so cannot select the subcategorisation frame of the matrix verb.

### ***Perfect tense***

Both Holmberg et al and Mitchell (1991a) posit a projection for the perfect and pluperfect participles which appear attached to the verb when supported by an auxiliary, as in (45) and (46). The former name the projection Tense, but distinguish it from Tense/Mood; in the latter analysis the projection is named Aspect. Because this position hosts perfect and pluperfect tense participles over and above those distinguishing past from nonpast tense, this projection is termed Perfect (PERF) in the present work.

### Negative Pluperfect

The participial morpheme -NUT (plus variants involving the assimilation of an initial consonant) supported by auxiliaries was analysed as Tense/Mood in a previous section. It is possible for a Finnish sentence to contain two participial verb forms, one base-generated in Tense and one in Perfect. Evidence that two projections are required for two separate participles is given by Holmberg et al and derives from negated pluperfect sentences:

- 48) Hanna e-i ol-lut vielä rakenta-nut talo-a  
       Hanna neg-3s be-past/3s yet build-pcp house-part  
       ‘Hanna hadn’t yet built a house’

In a negated pluperfect sentence, the negation element hosts agreement, the auxiliary hosts (participial) tense, and the verb appears in a participial form, so nodes are required for Agreement (-i), Negation (e-), Tense/Mood (-lut), Auxiliary (ol-), Perfect (-nut), and Verb (raken-).

### Negative perfect imperatives

Negative imperatives can also occur with perfect tense (data given as 46 above):

- 49) Äl-kää ol-ko otta-neet sitä!  
       neg-2p aux-ko take-pcp/past it-part  
       ‘Don’t have taken it!’

The negative pluperfect imperative exemplified above shares properties of indicative negative pluperfect sentences as in (45): the negative stem *äl-* is quasi-verbal, and appears with an ‘agreement’ marker *-kää* to signal the person and number of the addressee.

## Passive and Voice

Finnish has an impersonal passive formed by affixation of the verbal stem with the morpheme -TA+AN. Both previous analyses posit a node below Perfect tense in which Passive elements are base-generated; Mitchell (1991a) terms this node Voice while Holmberg et al posit a PASS node. Holmberg et al's term PASS is used here.

The passive markers in Finnish comprise a finite, impersonal passive morpheme -TAAN (composed of two subparts TA+AN; as discussed in a previous section this is evident in negated passives, where the second element fails to appear in the morphology) plus a participial morpheme -TTU. -TAAN occurs without a copula and can reflect past and nonpast Tense with an suffixed -i-. The passive participle appears as either a lexicalised adjective or as an adjectival predicate with copula, and can reflect past and nonpast tense (which is interpreted as expressing obligation). The surface forms of both morphemes are conditioned by consonant gradation and vowel harmony:

- 50) Koulu-ssa opiskel-tiin ranska-a  
 school-in study-pass/past French-part  
 'In school they studied French'
- 51) Suome-ssa syö-dään viili-ä  
 Finland-in eat-pass/np viili-part  
 'In Finland they eat *viili*'
- 52) Maala-ttu pöytä on myy-tävä-nä.  
 paint-pcp past/pass table-nom is-3s sell-pcp pass/np-ess  
 'The painted table is for sale'
- 53) Pöytä on maala-ttava.  
 table-nom is-3s paint-pcp pass/np  
 'The table should be painted'

In (50) and (51) the past/nonpast Tense distinction is realised by the infixes -ii-/-ää-. In (52) and (53) above the passive participles -TTU and -TTAVA reflect a tense distinction involving the completedness of the painting and selling events. Adopting the tree structure proposed so far, the structural differences between (50) and (51) on the one hand and the predicates in (54) and (55) on the other is proposed as follows: in (50)

and (51) the passive morpheme -TAAN is base-generated in PASS and raises to Tense; no auxiliaries project in this structure. There are two possible analyses for the morphology of (52) and (53). One possibility is that the passive morpheme in these cases is actually comprised of -TTA-, conditioned by consonant gradation in (53) to -ta-, plus a tense element -AVA (alternating with -U in examples like *Maala-ttu* in (52)). The passive element then raises from PASS to PERF to collect the tense marker, yielding the resulting participial verb in PERF, while further up the tree the auxiliary *ole-* raises to Tense and Agreement. The other structural option for these examples, and the one apparently favoured by Holmberg et al, is that the morphemes -TTAVA and -TTU are base-generated in Voice but conflate Perfect and Passive features, so that the elements are required to raise to Perfect. The productivity of the morpheme -VA independent of the passive -TTA supports the former analysis, also adopted by Holmberg and Nikanne (1993:2).

### 1.2.3 Summary

Adopting the proposed maximal phrase structure representations from Holmberg et al (1993) and Mitchell (1991a and 1991b) with some relatively minor alterations, the functional categories comprising INFL in Finnish finite clauses can be summarised thus far, in order of dominance from the top of the tree downwards:

1. AGR- verbal agreement affixes
2. NEG- semi-verbal negation elements *e-* and *älä-* (imperatives only)
3. T/M-

Tense (indicative Mood):

*finite* tense alternation, *-i/Ø*,

plus participial -NUT and -VA (with Negation only)

Mood:

Conditional *-isi-*

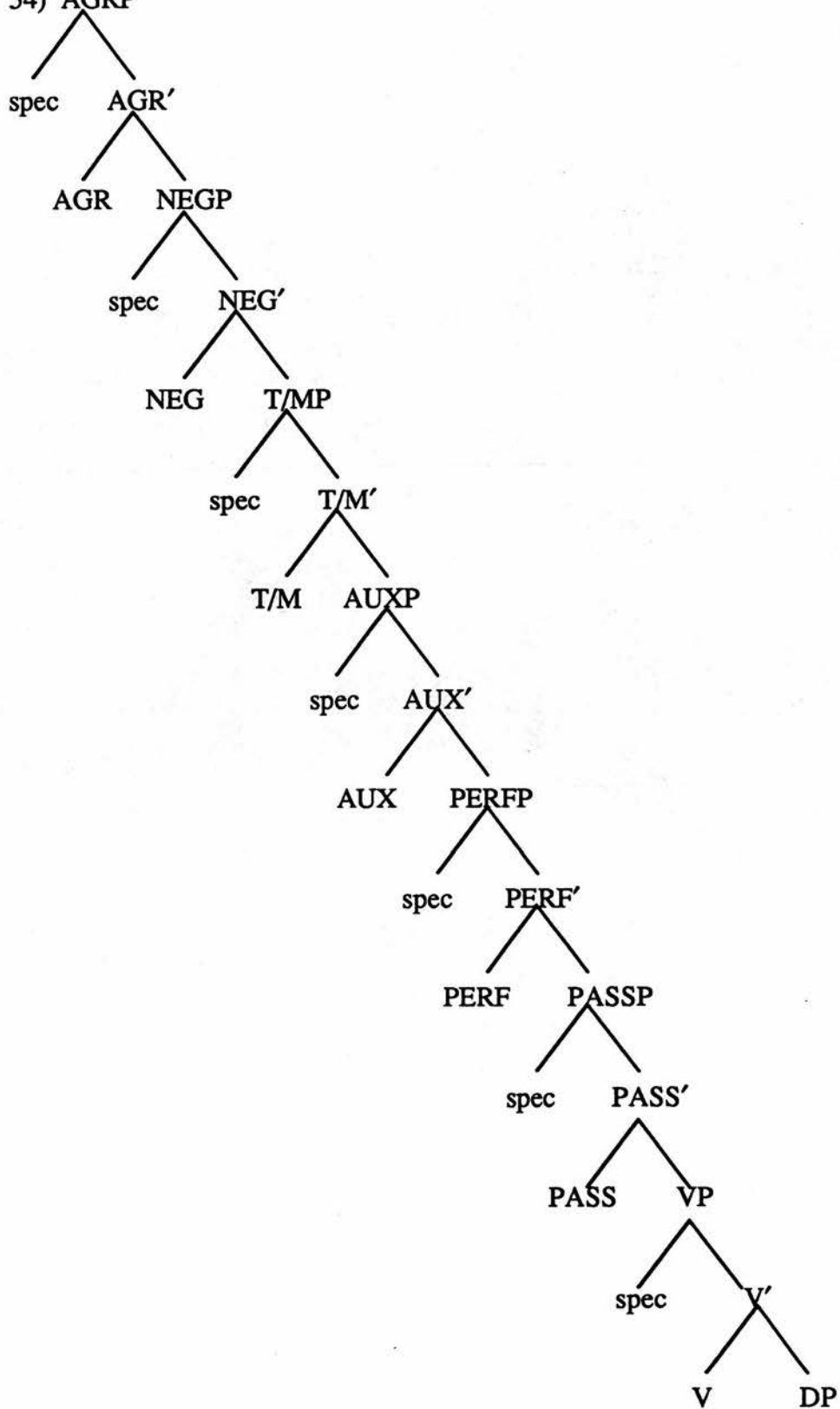
Potential *-ne-*

4. AUX- auxiliary verb stems *ole-* and *lie-*
5. PERF- participles -NUT, -VA, -(TT)U, -(TT)AVA
6. PASS- Voice:
  - Impersonal passive -TA+AN
  - Passive participial stem -TT

The present analysis, then, assumes that finite clauses are headed by subject agreement (AGR), governing the functional heads Negation, Tense/Mood, Auxiliary, Perfect, and finally, Voice. The maximal expansion of IP in any one finite Finnish sentence, a negated passive pluperfect, would have the following syntactic structure:



54) AGRP



Having posited the structure of the maximal Finnish IP as (54) above, the question remains as to whether all of these heads project in all sentences, as assumed in Mitchell (1991b) following e.g. Chomsky (1986b), or whether elements not overt in the morphology of a given sentence are also missing from the underlying syntactic representation, as assumed by Holmberg et al. This question is addressed in Chapter 4.

#### 1.2.4 Other functional categories

##### *CP and Topic*

COMP in Finnish is licensed by complementisers such as *että*:

- 55) Minä toivo-n, että aurinko paista-a huomenna.  
 I-nom hope-1s that sun-nom shine-3s tomorrow  
 'I hope that it will be sunny tomorrow'

Wh-movement in Finnish is assumed to involve movement to spec(CP) in the usual way:

- 56) Miksi sinä itke-t?  
 Why you-nom cry-2s  
 'Why are you crying?'

Moreover, CP has been identified as the position which hosts stressed elements by Vainikka (1989c); Vilkuna (1989) posits a discourse position K for contrastive elements, question particles, and relativisers, which corresponds roughly to C and spec(CP). Movement of elements to a sentence-initial position is often referred to as 'topicalisation', but this term may be misleading since stressed elements in this position in Finnish may receive a contrastive *focus* interpretation rather than an interpretation as a topic. Vilkuna and Vainikka also posit a position to the right of K or spec(CP) (T and spec(IP), respectively) which generally must be licensed with phonologically-realised material. This position might also be arguably be associated with Topics.

*DET*

Following Abney (1987), determiners are assumed to project as the functional head of NP. Written Finnish lacks articles, but evidence for a projection of DET is available from demonstrative pronouns:

- 57) a. Tuo siili                                      b. Nuo    siili-t  
       that hedgehog                                those hedgehog-pl  
       'that hedgehog'                              'those hedgehogs'
- c. Nä-i-n        tuo-n        siili-n.  
       see-past-1s that-acc hedgehog-acc  
       'I saw that hedgehog'

Demonstrative pronouns in the examples above show concord with the head noun.

*Infinitives*

In addition to the inflectional elements described above, Finnish has two productive infinitive markers, -MA and -TA, the forms of which are conditioned by consonant gradation, vowel harmony and morphophonemics of the verb:

- 58) a. E-n        minä    halua    vasta-ta    kysymykse-en.  
       neg-1s I-nom want    answer-TA question-ill  
       'I don't want to answer the question.'
- b. Mieh-e-n    tarvitse-e    myy-dä    tietokonee-nsa.  
       man-gen    need-3s    sell-TA    computer-Px3  
       'The man must sell his computer'
- 59) a. Auli        men-i        Turku-un    osta-ma-an    uude-n    lompako-n.  
       Auli-nom go-past/3s Turku-to buy-MA-ill    new-acc wallet-acc  
       'Auli went to Turku to buy a new wallet'
- b. Velje-ni        tul-i                etsi-mä-stä        ystävä-ä-nsä.  
       brother-Px1s come-past/3s look for-MA-ela friend-part-Px3  
       'My brother came from looking for his friend'

Infinitives are selected as complements by a wide variety of verbs, particularly modals and raising verbs. Holmberg et al (1993:188) argue that the infinitival morpheme -TA

projects in Tense (Perfect). Vainikka (1989c) proposes that the two elements head their own functional projections; her analysis is adopted in the current work.

In the next chapter, data are presented illustrating some of the case-marking phenomena to be examined in Chapters 3 and 4. In Chapter 5, the properties of nominal AGR (Possessive affixes) are contrasted with those of verbal AGR, and in Chapter 6 an account of complex predicates and nominalised constructions is outlined.

## 2. Grammatical Case Assignment in Finnish

Patterns of objective case in Finnish, or, more precisely, case marking on internal arguments and quasi-arguments, are problematic for Case Theory for a number of reasons and so has attracted scrutiny in the previous literature on Finnish. In simple transitives, subjects appear in nominative case and objects in accusative (identical in form to singular genitive case in full DPs) or partitive case. However, despite predictions made by Case Theory and Burzio's Generalization, full DP 'nominative objects' (here referred to as 'zero accusatives') surface in certain well-defined syntactic contexts, but alternate with accusative-marked animate pronouns in the same environments. Moreover, the distribution of both of these accusative forms alternates freely with partitive case. A separate form for plurals also exists, which is identical for nominative and accusative cases.

Data is presented first illustrating nominative subjects vs. objective case marking in transitive sentences. Next, the partitive/accusative alternation is examined. Finally, data illustrating the theoretically problematic zero-accusative case form is discussed, followed by a review of the previous literature on the topic.

### 2.1 *Subject and Object Case*

Canonical subjects appear in nominative, morphologically unmarked, case and agree with the verb. Plural nominative case is signalled by a suffix, *-t*<sup>1</sup>:

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<sup>1</sup> The issue of whether or not the *-t* affix is encoded as a single [+PLURAL]/[+PRONOMINAL] feature in the syntax will be addressed in Chapter 4, where morphological spellout rules will be posited for various argument types that yield surface forms that are sensitive to syntactic environment.

- 1) a. Nainen laulo-i.  
       woman-nom sing-past/3s  
       'The woman sang'
- b. Naise-t laulo-i-vat  
       woman-nom/pl sing-past-3p  
       'The women sang'

Nominative pronouns occur in their lexical forms according to the following paradigm:

|         |                  |    |                       |
|---------|------------------|----|-----------------------|
| 2) minä | 1s, 'I'          | me | 1p, 'we'              |
| sinä    | 2s, 'you' (sing) | te | 2p, 'you' (pl)        |
| hän     | 3s, 'he/she'     | he | 3p, 'they'            |
| se      | 3s, 'it'         | ne | 3p, 'they' [-ANIMATE] |

Objective case in simple transitive sentences may be marked with one of three suffixal forms, accusative *-n* and *-t*, and partitive *-TA*. The distribution of the *-n* case morph as a marker of accusativity is limited to singular full DPs and inanimate pronouns:

- 3) a. Henna otti avaimen.  
       Henna took/3s key-acc  
       'Henna took the key'
- b. Henna otti sen.  
       Henna took/3s it-acc  
       'Henna took it'

The singular accusative *-n* affix is identical in form to the singular genitive case affix for both full DPs and pronouns<sup>2</sup>:

- 4) se-n takana  
       it-gen behind  
       'behind it' (cf ex. 3b above)

<sup>2</sup> Vainikka (1989c) suggests that the *-n* accusative case form is actually the same case feature as the genitive case, which has percolated across from the spec(VP) position. However, the two need not be analysed as being the same 'feature'. Diachronically, the two were not identical. In proto-Uralic the accusative marker was *\*-m*, which during a phonological shift developed into *-n*; the genitive *-n*, on the other hand, is ancient (Comrie 1976:11, Hakulinen 1964:67). Also, the case forms have conflated only in the singular; the accusative plural form is *-t*, while the genitive plural form is *-iTEN*. See Reime (1993:106) for additional arguments on this point.

The accusative *-t* affix appears on plural DPs, homophonous with nominative plurals:

- 5) Naise-*t*            näk-i-vät    naise-*t*.  
     woman-pl/nom see-past-3p woman-pl/acc  
     'The women saw the women'

Plural DPs which are marked for other cases, however, e.g. locatives, appear with a different plural marker, *-i-*, which precedes the case affix:

- 6) talo-i-ssa  
     house-pl-iness  
     'in the houses'

The *-t* morph is thus not simply a plural marker; it is part of a case paradigm, and triggered by the assignment of nominative or accusative case.

The accusative *-t* also appears within the animate pronominal paradigm (cf. 2 above):

- |                   |                  |                 |                |
|-------------------|------------------|-----------------|----------------|
| 7) minu- <i>t</i> | 1s, 'me'         | meidä- <i>t</i> | 1p, 'us'       |
| sinu- <i>t</i>    | 2s, 'you' (sing) | teidä- <i>t</i> | 2p, 'you' (pl) |
| häne- <i>t</i>    | 3s, 'him/her'    | heidä- <i>t</i> | 3p, 'them'     |

The fact that accusative pronouns are clearly distinguishable from nominative pronouns becomes particularly relevant in section 2.1.2 below.

The third objective case form, the partitive, is signalled by the morpheme *-TA*, which is conditioned by consonant gradation, vowel harmony, and the morphophonemics of the stem to yield surface forms *-TA*, */-tä/*, */-tta/*, */-ttä/*, */-a/*, and */ä/*:

- 8) Henna otti si-tä.  
     Henna took/3s it-part  
     'Henna was taking it/took part of it'

Pronouns also appear in a partitive case form:

|    |        |                     |        |                          |
|----|--------|---------------------|--------|--------------------------|
| 9) | minu-a | 1s, 'of me'         | mei-tä | 1p, 'of us'              |
|    | sinu-a | 2s, 'of you' (sing) | tei-tä | 2p, 'of you' (pl)        |
|    | hän-tä | 3s, 'of him/her'    | hei-tä | 3p, 'of them'            |
|    | si-tä  | 3s, 'of it'         | nii-tä | 3p, 'of them' [-ANIMATE] |

In sum, the following grammatical case morphemes appear in transitive sentences:

10)

| Argument type | Nominative | Accusative | Partitive | Genitive   |
|---------------|------------|------------|-----------|------------|
| singular DPs  | zero       | - <i>n</i> | -TA       | - <i>n</i> |
| animate pron. | zero       | - <i>t</i> | -TA       | - <i>n</i> |
| plural DPs    | - <i>t</i> | - <i>t</i> | -i-TA     | -iTEN      |

Conflation of form has occurred among plural nominatives and accusatives, and among singular DP accusatives and genitives.

### 2.1.1 The Partitive / Accusative Alternation

We have seen that in transitive sentences, the distribution of the accusative forms -*n* and -*t* is dependent on the lexical properties of the argument; animate pronouns and plural DPs receive the accusative -*t* while singular DPs receive -*n*. In this section the complex semantic factors that condition the distribution of these accusative forms *vis a vis* the partitive case is discussed.

As an objective case, the partitive has arguably a wider distribution than the accusative (Yli-Vakkuri 1987). Linked with the event structure of a given verb, partitive objective case affix signals a variety of aspectual states including irresultativity, unboundedness, and atelicity, some of which may be determined purely by inherent properties of the verb. The partitive also induces a partially affected or indefinite reading, and is assigned by numerals and negation. Finally, the partitive is linked with presupposition. Aspectual distinctions signalled via partitive case marking are also independent of perfect and pluperfect tense, which are marked via participial verb endings. Because the



partitive/accusative alternation tends to express aspectual oppositions, there is some debate in the literature as to which, if either, is structurally assigned and which is inherent, or which is marked and which is unmarked (Heinämäki 1984, Belletti 1988, Vainikka and Maling in press, Rigler 1992). This issue is explored more fully in Chapter 4.

One of the main roles of the partitive case in Finnish is to induce an interpretation of the event structure of the verb as [-BOUND]. If the verb is lexically unspecified for boundedness (e.g. *lukea*, 'to read'), the partitive/accusative case alternation on the object signals that the event is completed or ongoing:

- 11) a. Ulla      luk-i      lehte-ä  
       Ulla-nom read-3s/past magazine-part  
       'Ulla was reading the magazine'
- b. Ulla      luk-i      lehde-n  
       Ulla-nom read-3s/past magazine-acc  
       'Ulla read the magazine'

Broadly speaking, if the verb is inherently [+BOUND] (e.g. *nähdä*, 'to see'), or requires a telic interpretation of the object, partitive objects are ruled out for an irresultative or atelic reading:

- 12) a. Ulla    näk-i      valaa-n  
       Ulla see-past/3s whale-acc  
       'Ulla saw the whale'
- b. \*Ulla    näk-i      valas-ta  
       Ulla see-past/3s whale-part  
       'Ulla was seeing the whale'

If a verb is inherently [-BOUND] (e.g. *rakastaa*, 'to love'), accusative objects are ruled out (13b):

- 13) a. Rakasta-n sinu-a.  
       love-1s    you-part  
       'I love you'

- b. \*Rakasta-n sinu-t.  
 love-1s you-acc  
 'I love you'

Adverbs of duration also signal boundedness; certain adverbial modifiers are inflected with objective case in the same way as full DPs:

- 14) Laulo-i-n minuti-n.  
 sing-past-1s minute-acc  
 'I sang for a minute'

Where a transitive verb takes a partitive object, the reading may be irresultative but [+BOUND] if an adverbial modifier delimits the duration of the event:

- 15) Te-i-n pulla-a tunni-n.  
 make-past-1s coffeecake-part hour-acc  
 'I made *pulla* for an hour' (but did not necessarily finish it)

Heinämäki (1984) proposes that the function of the accusative case in such pairs as (11) is to signal that there is a bounding element present, either to be inferred by the hearer based on contextual information, or explicitly specified via e.g. an adverbial modifier. Thus bounding phrases such as adverbs of duration do not act as independent bounds, but are interpreted as such as a result of accusative case being assigned to some element in the sentence. Rigler (1992) also argues that the boundedness value for an entire sentence cannot be signalled by a single constituent.

One fact seems to indicate that the partitive may be assigned syntactically rather than semantically, and has been used as evidence that the partitive/accusative alternation is not entirely semantic (Heinämäki 1984). Under negation, accusative rather than partitive objects are ungrammatical<sup>3</sup>:

<sup>3</sup> But see Almqvist (1989), who provides evidence that accusative objects *can* appear under the scope of negation, and that the alternation is systematic; however, the accusative appears in only 1 - 3% of negated sentences.

- 16) a. Soili        e-i        luke-nut    kuvakirja-a.  
       Soili-nom neg-3s read-pcp magazine-part  
       'Soili didn't read the magazine'
- b. \*Soili        e-i        luke-nut    kuvakirja-n.  
       Soili-nom neg-3s read-pcp magazine-acc

However, to a certain extent this 'syntactic' assignment of partitive case may be accounted for as a reflex of the semantics of negation; Vainikka (1989c) argues that negation is incompatible with the verbal feature [+COMPLETED], which assigns accusative case in her model.

The other main function of the partitive/accusative alternation in Finnish is to signal definiteness and the relative affectedness or partiality of the object, if the verb denotes a process; the interpretation of the argument as definite or affected is also dependent on whether it is a mass or count noun. In this sense the partitive patterns with De Hoop's (1992) Weak Structural case and the accusative with Strong Structural case:

- 17) a. Mikko        sö-i        kakku-a  
       Mikko-nom eat/past 3s cake-part  
       'Mikko ate some of the cake'
- b. Mikko        sö-i        kaku-n  
       Mikko-nom eat/past 3s cake-acc  
       'Mikko ate the entire cake'
- 18) a. Pekka    ampu-i        kyyhkys-tä.  
       Pekka shoot-past/3s pigeon-part  
       'Pekka shot a pigeon'
- b. Pekka    ampu-i        kyyhkyse-n.  
       Pekka shoot-past/3s pigeon-acc  
       'Pekka shot the pigeon'

Definiteness is assumed to be sensitive to discourse-based distinctions such as given vs. new information. Perhaps not surprisingly, then, the partitive/accusative alternation can express distinctions involving the assumption of background knowledge about a state or event. This use of the partitive is most clearly illustrated in yes-no questions and can

reflect levels of politeness (Heinämäki 1984:172; data from same source) and emotional overtones (Yli-Vakkuri 1987):

- 19) a. Ot-i-t-ko            telta-n?  
       Take-past-2s-qu tent-acc  
       'Did you take a tent?'  
       b. Ot-i-t-ko            telta-a?  
       Take-past-2s-qu tent-part  
       'Did you take a tent?'

In (19a), there is an implicit reminder to the hearer that s/he was supposed to have taken a tent. In (19b), no such assumption is made, and the form is politer.

Partitive case in Finnish is also assigned by numerals larger than one:

- 20) a. Yhdeksän    omena-a    puto-si    maa-han.  
       Nine-nom    apple-part    fall-past/3s    earth-to  
       'Nine apples fell to the earth'  
       b. \* Yhdeksän omena  
       Nine        apple-nom

In such cases the numeral is assumed to head a DP, assigning partitive case to the noun it governs. Numerals themselves may be case-marked as arguments; see Vainikka (1989a) for an interesting discussion of related phenomena.

As will become particularly relevant in the next section, the distribution of partitive vs. accusative case is conditioned by semantic factors. The semantic oppositions signalled by the partitive/accusative alternation are, broadly speaking, related to (a) the boundedness of the event structure in a given sentence and (b) to the interpretation of the object as definite/indefinite or partial/total. The syntactic phenomena that condition the distribution of the various accusative forms, on the other hand, never have a bearing on the accusative/partitive contrast.

### 2.1.2 Zero-Accusative Environments

In certain syntactic environments, singular full DP internal arguments do not receive the *-n* accusative case morph. Instead, full DPs in these sentence types receive what appears to be nominative case inflection; they appear in their lexical, uninflected form. 'Nominative objects' (or 'zero-accusatives') alternate with accusative human pronouns and are restricted in their distribution to a limited number of sentence types, which share defective agreement morphology and may fail to license an external argument. In some cases these properties are the result of morphosyntactic processes (imperative and passive inflectional morphology) while in other cases these properties appear to originate in the lexicon. The problem with analyses of these phenomena which rely on verbs losing their ability to assign case is that zero-accusative full DPs contrast with accusative pronouns in the same environments. Data is given below to illustrate the alternation.

#### 2.1.2.1 Impersonal Passives

Formal models of abstract Case as it relates to grammatical function and argument structure often focus on data from passives and unaccusatives because of apparently Case-related effects which appear in these contexts, such as NP-movement to subject position in English and case marking in Italian unaccusatives. Because grammatical case marking in Finnish is overt in the morphology, a fair amount of attention has been paid in the literature to impersonal passive sentences (van Nes-Felius 1983, Taraldsen 1986, Belletti 1988, Vainikka and Maling in press) in order to test predictions made by Case Theory and the Unaccusative Hypothesis (Perlmutter 1978 and Burzio 1986) in particular.

The facts about Finnish impersonal passives are interesting for several reasons: firstly, there is no requirement for passivized DPs to move out of complement position; secondly, nearly all verbs can undergo passivisation, including copulae and unergatives, but excluding unaccusatives; and perhaps most relevantly, internal arguments of passivised verbs show an alternation between nominative and accusative case depending

on the relative animacy of the DP. Impersonal passives also show interesting morphology.

Impersonal passive morphology is comprised of a verbal stem, generally 'weak' depending on the verb class, plus an impersonal morpheme -TAAN, which varies in surface form due to consonant gradation and vowel harmony:

- 21) Kalakukko syö-dään  
 Fish pie eat-pass  
 'The fish pie is being eaten'

Impersonal passives main clauses are tensed. The impersonal passive marker -TAAN has a nonpast form and a past tense form:

- 22) a. Ovi ava-taan  
 door-nom open-imp  
 'The door is being/will be opened'
- b. Ovi ava-ttiin  
 door-nom open-imp/past  
 'The door was opened'

Impersonal passives can be marked for mood, e.g. conditional:

- 23) Saa-ta-isi-in raha-a  
 get-imp-cond money-part  
 'They would get money / Money would be got'

There is both synchronic and diachronic evidence to suggest that the impersonal passive morpheme -TAAN is actually composed of two smaller morphological units. When the verb is negated, the second portion of the morpheme (the -*Vn* affix composed of a lengthening of the preceding vowel plus -*n*) fails to appear on the impersonal passive element, while the negation element stem *e-* is inflected for third person singular agreement:

- 24) a. Kalakukko syö-dään  
 Fish pie eat-pass  
 'The fish pie is being eaten'

- b. Kalakukko-a e-i syö-dä  
 Fish pie neg-3s eat-pass/np  
 'The fish pie was not eaten'

This pattern of negation and agreement is mirrored in finite clauses, where finite AGR is absent from the finite verb stem in negated sentences but appears instead on the quasi-verbal negation stem. These data are discussed in section 1.2.2 of the previous chapter.

Historically, the suffix *-Vn* appears to be derived from a third person pronominal possessive affix (Hakulinen 1964:157 and in subsequent literature). The third person possessive affix (Px3) is signalled by a lengthening of the preceding vowel plus *-n*. Pxes host pronominal agreement in various non-finite clauses:

- 25) Tul-tua-an<sub>i</sub> koti-in Minna<sub>i</sub> men-i nukku-ma-an.  
 come-ppc-Px3 home-to Minna go-past/3s sleep-MA-ill  
 'After coming home Minna went to sleep'

In (25) above, the third person possessive affix *-an* in the non-finite adverbial clause agrees with the main clause subject *Minna*. The homophonous *-Vn* morpheme in the impersonal passive is not coindexed with an overt argument, but according to some analyses of passivisation (e.g. Baker 1988) this element may itself have the status of an argument and receive an external theta-role. However, even if the *-Vn* element is a form of AGR, it is unproductive, restricted to third person agreement only. In this respect the 'agreement' marker in impersonal passives resembles similar markers in other zero-accusative contexts (discussed below), where agreement, if present, is depleted of person and/or number features or associated with a defective paradigm.

Impersonal passives have been interpreted as being similar to English-type passives in the literature (Vainikka 1989c and van Nes-Felius 1983), but there are several important syntactic differences. As (23) above demonstrates, passivised 'subjects' are not required to raise to a preverbal subject position (though as Vainikka 1989c notes, the syntactic subject position in passives is required to be licensed by lexical material of

some sort). As is the case in several Indo-European languages (e.g. Russian and Spanish) they may remain in situ in object position.

Impersonal passive morphology in Finnish is extremely productive, much more so than English passive morphology (26b and 27b). Unlike in English, unergative verbs and copulae can be passivized; in fact, any verb that can be conceived of as having a human subject/agent can be passivized (Laitinen and Vilkuna 1993:38, fn 11):

- 26) a. Uiskennel-tiin  
 swim around-imp/past  
 'They swam around'
- b. \* It was swum around  
 \* It was blushed
- 27) a. Eilen ol-tiin sauna-ssa  
 Yesterday be-pass/past sauna-in  
 'Yesterday (they) were in the sauna'
- b. \* It was being/been in the sauna

Verbs which cannot be conceived of as having a human agent, such as verbs of motion or change-of-state, cannot take impersonal passive morphology:

- 28) a. Asema-lle tul-i juna.  
 station-to come-past/3s train-nom  
 'A train came to the station'
- b. \*Asema-lle tul-tiin juna  
 station-to come-pass/past train-nom

Weather verbs cannot be passivized either:

- 29) a. Sata-a  
 rain-3s/pres  
 'It's raining'
- b. \*sade-taan  
 rain-pass/past

The most problematic feature of impersonal passives for theoretical analyses is the case alternation between full DPs and animate pronouns. Passivised full DPs appear in



nominative case, but animate pronouns in the same environment receive the accusative *-t* form:

- 30) a. Asema-lta tuo-tiin laukku  
 station-from bring-pass/past bag-nom  
 'The bag was brought from the station'
- b. Heidä-t tuo-tiin asema-lta  
 They-acc bring-pass/past station-from  
 'They were brought from the station'

The case facts related to impersonal passives exemplify a pattern visible throughout the grammar of Finnish. Accusative human pronouns alternate with nominative full DPs in a range of sentence types discussed throughout this chapter.

There has been some debate in the literature as to whether or not Finnish has a passive at all, and there is evidence to support both arguments. Shore (1988) argues at length against the analysis of the Finnish impersonal as a passive. She asserts that the impersonal passive verb (or 'indefinite') assigns an implicit plural agent theta-role, despite the fact that an overt, oblique subject (as in English passives) is ungrammatical.<sup>4</sup> Shore notes that the impersonal passive verb may not describe an act of nature, or one performed by an animal or God; the reading must be for a plural and specifically human agent.:

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<sup>4</sup> In most dialects of spoken Finnish, the impersonal passive form has replaced the first person plural verbal agreement affix *-mme* and may occur with an overt, nominative subject pronoun:

- i. Me oste-ttiin auto  
 we-nom buy-im/past car-nom  
 'We bought a car'

The verb remains unmarked for agreement despite the presence of a nominative subject, and the object DP appears in nominative case. This construction is extremely problematic for many theories of case-assignment. However, it is (at present, at least) confined to spoken rather than written Finnish only, and it is well-attested that the syntactic properties of spoken Finnish differ markedly from those of the standard written language (Vainikka 1989c); therefore no analysis of this construction is attempted in the current work.

- 31) Kaupunki      tuho-ttiin  
      town-nom    destroyed-imp/past  
      'The town was destroyed (by a crowd)'  
      \*'The town was destroyed (by a hurricane)'

Largely on the basis of evidence relating to case-assignment, and following from his assertion that the Case Filter is inactive in Finnish, Milsark (1985:323) also argues against the impersonal construction as a passive, and interprets it as an active sentence with PRO as its subject.

Previous analyses of Finnish impersonal passives are unanimous in acknowledging that productive verbal agreement is not present in this construction. The most contentious issue that emerges from this observation is to what extent verbal agreement morphology reflects argument structure, and what effect argument structure has on the ability of the verb to assign accusative case. Differences of opinion on this point are reflected in the literature on Finnish. Contra Shore (1988), van Nes-Felius (1983) interprets this construction as having a suppressed external theta role as in an English passive. She argues that the 'passive' morphology absorbs the nominative case of the subject but fails to assign accusative to its object. Mitchell (1991a) and Holmberg et al (1993) both argue that Finnish has passives, but that passivised DPs do not undergo movement to subject position as in English passives.

Vainikka (1989c) assumes that Finnish has passives, but also rejects the existence of the Case Filter for Finnish because, among other reasons, accusative pronouns violate Burzio's Generalization. Burzio's Generalization predicts case-assignment and theta-marking properties of verbs which lack external arguments (Burzio 1986:178-9):

- 32) i. A verb which lacks an external argument fails to assign accusative case  
      ii. A verb which fails to assign accusative case fails to theta-mark an external argument

The appearance of an accusative internal argument of a passive as in (30b), then, contradicts this generalisation. There are a number of languages in which passive verbs retain their ability to assign case (Jaeggli 1986), but the Finnish data constitute a par-



ticularly serious counterexample to both halves of Burzio's Generalization, because (i) is violated by impersonal passives and copular constructions, while (ii) is violated by imperatives (discussed later in this section).

An important issue in analysing Finnish impersonal passives, then, lies in the status of their external arguments: do they truly get absorbed by the passive morphology, i.e. does the process of passivization fundamentally alter argument structure (Chomsky 1981, Marantz 1984), or are external arguments of impersonal 'passive' verbs still active in the syntax although not phonetically overt (Baker 1988)? The choice of analyses has important consequences for Burzio's Generalization, discussed in greater detail in section 3.1, which links the failure of certain verbs to assign accusative case with a failure to license an external argument. In Chapter 4 it is argued that the presence of an overt external argument indirectly determines the case-assigning properties of the verb.

### 2.1.2.2 *Unaccusatives*

According to the Unaccusative Hypothesis (Perlmutter 1978), subjects of certain intransitive verbs originate as underlying objects (unaccusatives), while subjects of other intransitives originate as subjects (unergatives). The proposed distinction between unaccusatives and unergatives is essentially a semantic one. Although the single argument of an unaccusative verb may originate as an object, Perlmutter also formalises the following rule (Perlmutter 1978:161):

#### 33) The Final 1 Law:

Every clause with an unaccusative substratum involves an advancement to 1.

This rule of Relational Grammar entails that unaccusative verbs always promote their underlying objects (2) to the status of subjects (1). The rule is designed to capture effects related to 'promotion to subject' for both unaccusatives, which are argued to lack subjects at the lexical/semantic level, and impersonal passives, the whose subjects have been absorbed by passive morphology (i.e. at the syntactic level, according to most transformational accounts of passivisation).

Lexical unaccusatives, according to Perlmutter, typically involve motion, state or change-of-state, and their subjects are less agentive/volitional than unergative subjects. Unaccusatives share various distinctive syntactic properties cross-linguistically which suggest that Perlmutter's hypothesis is valid. In Romance languages, a different auxiliary is used with unaccusative verbs as opposed to unergatives and transitives. In Italian, unaccusative subjects occur postverbally in unmarked word order, and they accept clitics of negation as if they were objects. Moreover, unaccusatives fail to assign accusative case in Italian, leading Burzio (1986) to posit his generalisation that verbs lacking external arguments also fail to assign accusative case.

Despite the evidence from Italian and English, not all linguists are convinced that the Unaccusative Hypothesis holds true as a linguistic universal. Mithun (1991) calls into question the basic lexical distinction between unergative and unaccusative verbs, noting that in many languages effects related to unaccusativity are linked to the relative animacy of arguments and aspect rather than to lexical properties of the verb. Also, given the fact that unaccusative subjects in many languages may appear either in subject or object position, with various semantic effects (e.g. relative animacy or volition) depending on the position of the argument, the question remains as to whether the Unaccusative Hypothesis is universally true for all verbs in all languages, or if unaccusative subjects may in fact be base-generated *either* external or internal to VP, depending on semantic factors such as animacy and aspect.

Like Italian, Finnish is characterised as an SVO language with relatively free word order that allows pro-drop (in some paradigm slots). Traditional Finnish grammars describe an 'existential' and several related constructions that broadly encompass Perlmutter's unaccusative verb class. Verbs in these construction show default third person agreement morphology regardless of whether the argument is singular or plural, and the argument may receive either nominative or partitive case:

- 34) Sie-llä hävis-i                    nainen.  
       There vanish-past-3s woman-nom  
       'There vanished a woman'

35) a. Koulu-ssa on uude-t opettaja-t  
 school-in is/3s new-nom/pl teacher-nom/pl  
 'The school has new teachers'

b. \*Koulu-ssa ovat uude-t opettaja-t  
 school-in is/3p new-nom/pl teacher-nom/pl

Under negation, postverbals 'subjects' in these sentences typically occur in the partitive, unlike grammatical subjects:

36) a. Perhee-seen synty-i kaunii-t tyttö-t  
 family-to born-3s/past beautiful-nom/pl girl-nom/pl  
 'To the family were born beautiful daughters'

b. Perhee-seen ei synty-nyt kaunii-ta tyttö-jä  
 family-to neg/3s born-pcp beautiful-pl/part girl-pl/part  
 'To the family weren't born beautiful daughters'

c. \*Perhee-seen ei synty-nyt kaunii-t tyttö-t  
 family-to neg/3s born-pcp beautiful-pl/nom girl-pl/nom

37) a. Kaunii-t tyttö-t synty-i-vät perhee-seen  
 Beautiful-nom/pl girl-nom/pl born-past-3p family-to  
 'The beautiful daughters were born to the family'

b. Kaunii-t tyttö-t ei-vät synny-neet perhee-seen  
 Beautiful-nom/pl girl-nom/pl neg-3p born-pcp family-to  
 'The beautiful daughters weren't born to the family'

c. \*Kaunii-ta tyttö-jä ei-vät synny-neet perhee-seen  
 Beautiful-pl/part girl-pl/part neg-3p born-pcp family-to

Despite the fact that nominative and partitive case may both be assigned in this construction, the case alternations involving accusative pronouns described in section 2.1.2.1 above fail to show up in unaccusative sentences because unstressed pronominal 'subjects' in the same environment are ungrammatical<sup>5</sup>:

<sup>5</sup> A similar restriction on postverbal pronouns in unaccusatives appears to exist in most languages that allow VS-word order for this type of verb. Although this topic will be left for further research, it is tentatively suggested here that this restriction is the result of a complex interaction of factors related to the relationship between syntax, verbal semantics and information structure.

- 38) \*Perhee-seen synty-i sinu-t  
       family-to born-3s/past you-acc  
       'To the family you were born'

Vilkuna (1989:155-64) discusses these sentences and notes various other object-like properties of the existential 'subject', including similarities with impersonal passive 'subjects' with respect to reflexive binding. However, she also notes several subject-like properties of the same DPs: verbs which can occur in these constructions can all take nominative subjects; in certain cases, existential subjects can 'escape' the scope of negation and occur in nominative case; and finally, unlike genuine objects and passivised DPs, single count nouns cannot occur in the partitive, which suggests that 'existential' sentences in Finnish have distinct aspectual properties. Vilkuna concludes that although subjects of these sentences are syntactically ambiguous, within a structural, configurationally-based account of Finnish they would be best analysed as originating within VP. Thus despite Vilkuna's rejection of the term 'unaccusative' for existential sentences in Finnish, the term will be retained in the current work.

### 2.1.2.3 Possessive copular constructions

In possessive copular constructions, the third person copular verb assigns nominative, partitive, or accusative case to the predicate DP:

- 39) a. Häne-llä on hevonen.  
       s/he-adess is/3s horse-nom  
       'S/he has a horse'
- b. Häne-llä on hevos-i-a.  
       s/he-adess is/3s horse-pl-part  
       'S/he has horses'
- c. Häne-llä on sinu-t.  
       s/he-adess is/3s you-acc  
       'S/he has you'

These data exemplify the same case-related patterns discussed in the previous section on impersonal passives: human pronouns (39c) appear in accusative case and alternate with nominative (39a) and partitive (39b) full DPs. A plural predicate of the copular

verb fails to trigger agreement morphology (39b), evidence that verbs in this construction are also depleted of agreement features.

#### 2.1.2.4 Imperatives

Perhaps because typically they involve only one overt argument, case marking in imperative sentences is often idiosyncratic cross-linguistically (Sadock and Zwicky 1985:174-5). Case in Finnish imperatives patterns like that in other 'zero-accusative' syntactic environments. In first and second-person Finnish imperative sentences, accusative full DP and inanimate pronominal complements appear zero-marked:

- 40) a. Tuo            sateenvarjo!  
       Bring-imp umbrella-nom  
       'Bring the umbrella!'
- b. Tuo            se!  
       bring-imp it-nom  
       'Bring it!'

Animate pronouns in the same distribution occur in accusative *-t* case:

- 41) Tuo häne-t            koti-in!  
       bring him/her-acc home-to  
       'Bring him/her home!'

When the referent is second person singular, imperative mood appears in written Finnish as the bare, uninflected stem of the verb.

Generally speaking, the referent signalled by the imperative is implicit, and assumed to be equivalent to the hearer or hearers. An overt nominative 'subject' referring to the hearer is possible, but only in postverbal position:



- 42) a. Ota sinä laukku!  
       take you bag-nom  
       ‘You take the bag!’
- b. \*Sinä ota laukku!  
       you take bag-nom

It is also possible to specify a pronominal referent with an imperative agreement element; these markers signify optative mood in the third person (Sulkala and Karjalainen 1992:316):

- 43) From *ottaa*, ‘to take’:

|                          |                            |
|--------------------------|----------------------------|
| 1s: (no form)            |                            |
| 2s: Ota (sinä) se!       | ‘Take (sg. addressee) it!’ |
| 3s: Otta-koon (hän) sen! | ‘Let him/her take it!’     |
| 1p: Otta-kaamme (me) se! | ‘Let us take it!’          |
| 2p: Otta-kaa (te) se!    | ‘Take (pl. addressee) it!’ |
| 3p: Otta-koot (he) sen!  | ‘Let them take it!’        |

Overt referents are felicitous in all of the above paradigm slots.<sup>6</sup>

Negative imperatives involve a special negative auxiliary stem to which the morphs listed above are attached, plus an additional marker on the verbal stem:

|                           |                               |
|---------------------------|-------------------------------|
| 44) 1s: (no form)         |                               |
| 2s: älä liikutta          | ‘Don’t move!’ (sg. addressee) |
| 3s: äl-köön liikutta-ko   | ‘Let him/her not move’        |
| 1p: äl-käämme liikutta-ko | ‘Let us not move’             |
| 2p: äl-kää liikutta-ko    | ‘Don’t move!’ (pl. addressee) |
| 3p: äl-kööt liikutta-ko   | ‘Let them not move!’          |

In affirmative imperative sentences<sup>7</sup> with first and second person referents, DP objects appear zero-marked for objective case, but in third person imperatives, objects are marked for *-n* accusative case:

<sup>6</sup> First person plural *me* is stylistically marked as pompous, according to one informant.

<sup>7</sup> In negated sentences partitive case is assigned to the complement DP.



- 45) a. Herätä                      Matti!  
       Wake up-imp(2s)    Matti-nom  
       ‘Wake up Matti!’
- b. Herättä-köön        Matti-n!  
       Wake up-imp(3s)    Matti-acc  
       ‘Let him/her wake up Matti!’

On the basis of this paradigm of ‘agreement’ markers, Mitchell (1991:220) has proposed that imperatives in Finnish show syntactic agreement with subjects. However, the status of these affixes as full verbal agreement remains ambiguous; in phonological terms these morphs share features with clitics, distinct from inflectional affixes and possessive affixes. This is indicated by the fact that overt imperative agreement markers fail to trigger consonant gradation in the preceding syllable (45b). The argument structure of imperatives is discussed in greater detail in section 3.4.

#### 2.1.2.5 *Complex predicates*

Case marking in complex predicates is unusual in that singular DP complements of the lower clause are case-marked *-n* or zero-accusative depending on the agreement morphology and/or argument structure of the *matrix* verb:

- 46) Minä halua-n ostaa olue-n.  
       I     want-1s   to buy beer-acc  
       ‘I want to buy a beer’
- 47) Minu-n tarvitse-e ostaa olut.  
       I-gen   want-3s   to buy beer-nom  
       ‘I need to buy a beer’

In (46) the matrix verb agrees with its subject, and accusative case is assigned to the complement of the lower VP. In (47) the matrix verb shows defective agreement marking, and the full DP complement of the lower VP is assigned nominative case. This pattern of case marking may extend to the subjects of infinitival complements:<sup>8</sup>

<sup>8</sup> Infinitives may be formed with either of two affixal morphemes, *-MA* and *-TA*, the realisation of which are conditioned by consonant gradation, vowel harmony and the type of verbal stem. Both types may have overt subjects, depending on the governing verb. Only the *-TA* type given in these examples

- 48) a. Hän pakott-i lapse-n avaa-ma-an ove-n.  
 S/he-nom force-past/3s child-acc open-MA-ill door-acc  
 'S/he forced the child to open the door'
- b. Pakota lapsi avaa-ma-an ovi!  
 Force-imp child-nom open-MA-ill door-nom!  
 'Force the child to open the door!'

One set of constructions in which zero-accusative case gets assigned involves a class of verbs which take infinitival complements and assign genitive case to their subjects.<sup>9</sup> Genitive subject verbs share semantic features associated with deontic modality, necessity or obligation, hence the traditional term 'necessive' for this type of verb:

- 49) a. Häne-n täyty-y teh-dä se.  
 his/her must-3s do-TA it-nom  
 'He/she must do it'
- b. Sinu-n pitäisi tuo-da heidä-t koti-in.  
 you-gen should/3s bring-TA them-acc home-to  
 'You should bring them home'

Consistent with the general pattern for verbs lacking syntactic subject agreement, the complement of the lower VP appears in nominative case if it is an inanimate pronoun (or singular full DP) (49a) and accusative case if it is an animate pronoun (49b). The matrix verb in this construction is marked for a default third person agreement; if the matrix subject appears in the plural, the agreement on the verb does not change:

- 50) a. Häne-n täyty-y teh-dä se.  
 his/her-gen must-3s do-inf it-nom  
 'He/she must do it'
- b. Heidä-n täyty-y teh-dä se.  
 their-gen must-3s do-inf it-nom  
 'They must do it'

---

have subjects which are case-marked structurally; -TA infinitives assign lexical genitive case to their subjects.

<sup>9</sup> Laitinen and Vilkuna (1993) observe that in certain dialects of Finnish genitive subjects alternate with nominative subjects, and that the alternation is systematic and is associated with agreement.

Matrix verbs in this construction can be marked for both tense and mood. The tense and mood morphs appear with no overt agreement, indicating default third person singular marking:

- 51) a. Sinu-n     pitä-isi     men-nä koti-in  
       you/s-gen must-cond-3s go-inf home-to  
       ‘You should go home’
- b. Aili-n     on     täyty-nyt     men-nä koti-in  
       Aili-gen is/3s must-ppc go-inf home-to  
       ‘Aili had to go home’

Another set of verbs selecting infinitival complements involve assignment of zero-accusative case alternating with accusative pronouns. These verbs have surface Experiencer subjects in the partitive case:

- 52) a. Minu-a pelotta-a     ava-ta     ovi  
       I-part scare-3s open-inf door-nom  
       ‘I’m afraid to open the door’
- b. Minu-a pelotta-a     näh-dä     heidä-t  
       I-part scare-3s see-inf them-acc  
       ‘I’m afraid to see them’

The morphology of these verbs nearly always includes a causative suffix, *-tt-*. The structure of the partitive subject construction mirrors that of the genitive subject construction; the verbs select infinitive clauses as complements, where the object DP of the lower clause is marked for zero-accusative case or accusative if pronominal. Partitive subject verbs also fail to agree with their surface subjects. They are, however, tensed:

- 53) Hän-tä     harmitt-i     keskeyttä-ä     työ  
       him/her-part annoy-past/3s interrupt-inf work-nom  
       ‘It annoyed him/her to interrupt work’

Whereas neccessive verbs involve obligation, partitive subject verbs are linked with a non-agential, Experiencer participant role. Similar verbs also occur in Icelandic and Russian, where subjects can be dative or accusative (Andrews 1985:102):

- 54) MÉR líkar vel við henni  
       me/dat likes/3s well with her/dat  
       'I like her'

In Chapter 6 these constructions are analysed as having a similar underlying structure as genitive subject verbs.

### **2.1.2.6 Summary**

From the data it is evident that there is a link in Finnish between the form of the subject and the form of the object; accusative objects pattern with nominative subjects, and nominative objects with oblique or omitted subjects. More specifically, this correlation is related to the presence or absence of productive agreement morphology on the verb, as noted in the previous literature. Assuming that verbal agreement morphology is a reflex of the person and number features of the subject, this pattern suggests a syntactic dependency in Finnish between two discontinuous elements, inside and outside the VP. In order to provide an account of this dependency, the relationships between case (both abstract and morphological), agreement and argument structure must be investigated more thoroughly.

## **2.2 Object case assignment and agreement in Finnish: previous accounts**

Several questions emerge from the data outlined in the previous section. Firstly and most importantly is that of the nature of the zero-accusative case. Is the zero inflection an allomorph of the genitive/accusative case *-n*, is it nominative case, or does it represent the lack of any case inflection? If the zero object form is a case, what is assigning it? If it is nominative case, what distinguishes it from structural accusative case, and

why do animate pronouns get accusative case in the same environments? Although there is no clear consensus in the existing literature on the topic, previous analyses tend to focus on either the lack of a lexical subject in zero-accusative constructions or the presence or absence of inflection or agreement on the governing verb.

The second issue that arises from the Finnish data relates to the accusative - partitive case alternation. Which, if either, is the more marked objective case? Because the distribution of the two cases often reflects aspectual and other types of semantic dichotomies, it is difficult to determine whether one or the other case is a structural default. Vainikka's (1989c, 1993) and Vainikka and Maling's (1992) hypothesis the partitive is a structural default case for complements of categories V and P provides one mechanism for accounting for the distribution of the two cases. In Chapter 4 another approach is outlined in which both cases are assigned structurally via theta-marking of aspectual roles by V. Before an analysis of the data is presented, however, existing literature on the topic is examined in this chapter.

The data presented in the sections above has been mentioned in several traditional grammars, e.g. Setälä (1891/1952:18-19), who mentions the dependency between the valency of the matrix verb and the form of the lower clause object in complex predicates; Eliot (1890:182), who mentions the lack of agreement morphology in the context of nominatively-marked objects; and Hakulinen (1946/1964).

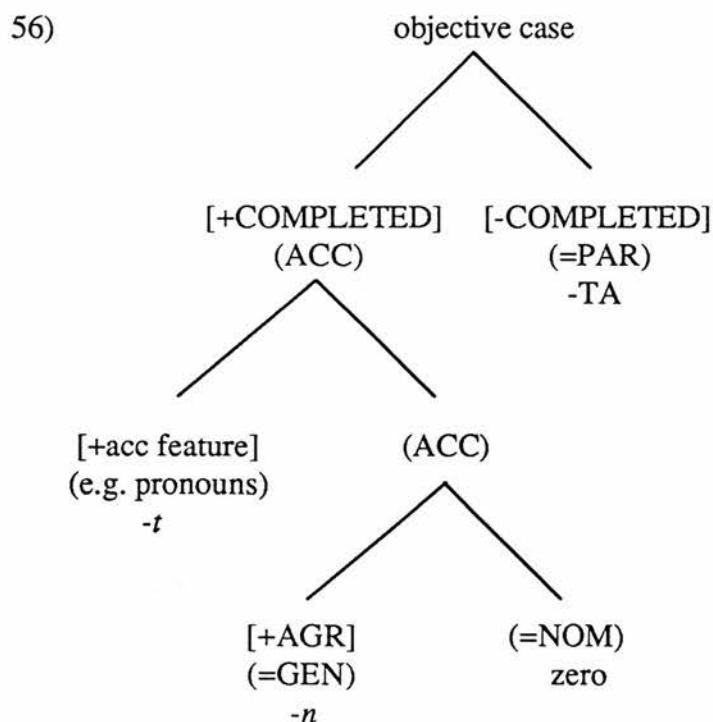
Timberlake (1975) disputes a traditional contention that zero-object constructions are those in which the logical subject has been deleted, noting that imperatives may take a postverbal subject for emphasis, and yet the object NP remains zero-marked (data from Timberlake 1975):

- 55) Ota sinä kahvi kaapi-sta  
       take you coffee-nom cupboard-from  
       '*You* take the coffee from the cupboard'

Timberlake's own account is essentially functional. Following Jakobson (1936), he correlates the accusative case with 'personal' verbs (i.e. verbs which allow a gram-

matical subject). In such sentences, the presence of multiple (possible) GFs allows for ambiguity of interpretation, hence the function of the accusative is to signal a possible conflict of interpretation and thus avoid ambiguity. The nominative case, on the other hand, surfaces as an elsewhere case, and may appear on objects where the verb is 'nonpersonal'. Nonpersonal verbs, he argues, are morphologically simpler than personal verbs and do not allow the possibility of a grammatical subject. Since there is no possible conflict of GF interpretation, the accusative fails to appear and the nominative is used as a default. Multiple nominative-marked nouns in imperatives and impersonal passives are possible because the verbs are impersonal and lack grammatical subjects. Hakulinen and Karlsson (1979:187) adopt Timberlake's account and assume that the nominative object is a form of the accusative.

Later analyses within the Principles and Parameters framework have focused on the existence of syntactic/semantic features (e.g. +COMPLETED in Vainikka 1989c) and major category features (Reime 1989, 1993) which might trigger a surface case form. To illustrate this pattern of features and cases, the following general schema for case assignment has been adopted in various forms by van Nes-Felius (1983), Renault (1984), Reime (1989, 1993), and Vainikka (1989c):



The first binary branching node in this representation of case involves the aspectual feature [+COMPLETED]. If the verb lacks this feature, partitive case is assigned to the NP complement. If the verb does have this feature, a choice exists between three forms of the accusative case. According to this system, if the NP in question has a pre-determined accusative form in its paradigm, i.e. is a human pronoun or plural, the accusative case form will be *-t*. The next branch in the tree concerns agreement. If the verb has the feature [+AGREEMENT], the case assigned is 'genitive-accusative', or *-n*; if not, it is assigned 'nominative-accusative', or zero. This analysis assumes a fact which in the past has been a matter of some debate, namely, that the zero morph marking NPs in certain constructions is a form of accusative case rather than nominative case. It also assumes that such relatively complex syntactic systems as aspectual completedness and verbal agreement can be accounted for as a single binary feature in the syntax. Some consensus in the literature thus exists that the partitive/accusative alternation is essentially semantic; the *-t* accusative feature is lexically derived; and the *-n*/zero accusative alternation among full DPs is syntactic. Over and above these generalisations, however, the main focus of debate has been as to whether the distribution of cases can be accounted for within Case Theory or not.

Milsark (1985) is the first to propose that the Case Filter is actually encoded as a parameter of UG (rather than a linguistic universal) that is inoperative in Finnish. Leaving aside the issue of case assignment to pronouns, Milsark notes that the traditional grammarians' account of the Finnish data, in which objects appear in nominative case when no overt subject is present, does not represent a valid correlation for several reasons. Firstly, two nominative elements are possible in a single imperative or impersonal passive sentence; and secondly, to posit a case-assigning metric sensitive to information external to the governing domain of the verb would be to compromise the integrity of the configurational VP. Furthermore, he notes that the morphological case alternation between *-n* and zero cannot be the result of differing spellouts of the same abstract case, because word-formation processes are meant to be insensitive to syntactic environment (if the Lexicalist Hypothesis is assumed). To account for the data, he argues that nominative case is not a case, i.e. 'lexical', uninflected NPs are Caseless at all levels. Accusative case is only assigned under government by inflected verbs with



no intransitivizing morphology such as passive or imperative. Milsark's perceptive discussion of the motivations for, and validity of, the Case Filter cross-linguistically highlights many of the themes to be discussed at length in later chapters of this thesis, including the link between agreement morphology and nominative case assignment, the difficulties arising from the adoption of the Lexicalist Hypothesis for the realisation of abstract case via morphological spellout rules, and the relationship between argument structure and case assignment. The main flaw in his hypothesis, however, is that since he does accept the Lexicalist Hypothesis and therefore rules out *-n* and zero as allomorphs of abstract accusative Case conditioned by syntactic environment, there is no way his model can account for the presence of the *-t* affix on accusative animate pronouns alternating with 'caseless' NPs. If V is unable to assign accusative case to full DPs because of its argument structure or inflectional morphology, then there is no way to account for accusative morphology on animate pronouns in such environments without positing *-t* as an allomorph of zero.

Taraldsen (1986) rejects the standard notion that AGR is essential for the assignment of nominative case, instead arguing that nominative is not a case and that its distribution can be accounted for in purely structural terms. He argues that Finnish is non-configurational, lacking VPs, and that nominative is linked with the coindexation of the feature [+EA] (External Argument) to a chain. His arguments are partly based on data from Finnish unaccusatives, where despite a lack of subject case agreement, nominative case gets assigned to the complement (data from Taraldsen 1986:139):

- 57) Tuli      vaikea-t      aja-t  
       came-3s hard-nom/pl time-nom/pl  
       'There came hard times'

Taraldsen does not, however, consider the data from accusative animate pronouns, and so his analysis fails to achieve descriptive adequacy.

Vainikka (1989c) is to date the most comprehensive syntactic analysis of Finnish within the Principles and Parameters framework. Her thesis provides an account for phenomena as diverse as word order, anaphoric binding and case assignment and posits



several innovative theoretical features to account for the data, including an additional level of representation in the syntax ('M'-structure), a reworking of trace theory ('pointer theory') and a model of licensing for elements in the spec(IP) position.

Most relevant for the current study is Vainikka's analysis of case assignment. With Milsark (1985) and to a certain extent Taraldsen (1986) she accepts the traditional view (Jakobson 1936)<sup>10</sup> that nominative case is not a case. She rejects Case Theory

"...because it does not account for morphological cases in Finnish; Finnish has no 'ECM'; in Passive and Raising in English, where NPs move to get case, the comparable Finnish NP clearly has case or Case, yet its movement pattern is quite similar to the case-seeking NP in English; that is, a theory of Passive and Raising is required for Finnish that is not based on any notion of case/Case."

(Vainikka 1989c:16)

Vainikka also posits a system of structural default case assignment to account for the patterning of most surface case forms. She argues that genitive is the structural default case for all specifiers (and by extension, subjects), as long as the element is lexical. No structural default case is proposed for complements in general, but partitive is taken to be the structural default case for complements of V and P and elative the default for complements of N and A. For oblique case she adopts Nikanne's (1989) model in which oblique cases head their own projections and oblique case features percolate to other elements in the phrase.

In Vainikka's model, abstract accusative case appears only as a result of the aspectual feature [+COMPLETED] on the verb, which prevents partitive case from appearing. Pronouns appear with *-t* because that morph is available within the pronominal paradigm. Following from her assumption that the Case Filter is inactive, she suggests that the accusative *-n* case form is not assigned by V, but is actually the same case feature as the genitive subject case, which has percolated across from the spec(VP) position. The

<sup>10</sup> Based on data from Russian, Jakobson argues that nominative is not a case because although it appears on elements designated as 'subjects', it actually serves a heterogeneous function, signalling topics, naming referents, or appearing as an unmarked opposition to marked accusative case in passives and copular constructions. Jakobson reaches an insightful conclusion about the different functions of nominative and accusative case: while the appearance of accusative case entails the existence of a hierarchy of meanings, and signals that the element occupies a low point on that hierarchy, nominative case refers to a single function and does not entail the existence of a hierarchy.

default case for the position spec(VP) in her model is genitive. When subjects agree with the verb (either via theta-role assignment or lexically) agreement features are base-generated in INFL. The subject raises to (spec)IP to become coindexed with these features, 'stranding' its genitive features behind in spec(VP). Later in the derivation, the genitive features percolate to complement position to mark accusative case. If there is no agreeing subject in spec(IP), the genitive feature remains in spec(VP), and the complement NP appears 'caseless'. This is internally consistent with her analysis, since she argues that nominative case is the lack of any case inflection, and it accounts for the distribution of genitive subjects in certain zero-accusative constructions. Vainikka's hypothesis is referred back to throughout this thesis.

Two analyses provide a structural account of the Finnish data without rejecting the basic tenets of Case Theory. Reime (1989, 1993) proposes a theory of case assignment which involves the interaction of major category features and agreement features. He suggests that verbs in Finnish contain the category features [+V, (-N)], and that the feature [-N] is dependent on the presence of the inflectional element AGR. V, he argues, assigns objective case to its complement, but verbs which lack the feature [-N] (i.e. which occur in clauses not headed by AGR) require the accusative suffix *-n* in order for their complements to be visible to the Case Filter at PF. Verbs which have the [-N] feature can assign objective case, under a head-government relation, which is interpreted at PF without the *-n* affix. Like Vainikka, he assumes that plurals and animate pronouns have the *-t* affix available to them (presumably lexically) and so do not require a additional affix for visibility to the Case Filter. Several of Reime's proposals, for instance the notion that Px AGR is equivalent in the syntax to verbal AGR, are adopted in the current work.

Mitchell (1991b) is the first work to apply Pollock's (1989) Split-INFL Hypothesis to case assignment in Finnish. She interprets subjects as being base-generated outside VP, in a functional projection called PredP, where nominative case is also assigned. To account for case in passives and related constructions, she proposes that nominative case comprises two distinct forms, nominative-nominative and nominative-accusative; the surface case form of the single argument depends on the presence of agreement features in the verbal inflection.

Another theoretical approach to have been applied to the issue of case assignment in Finnish is the Case-Tier (Yip, Maling and Jackendoff 1987; Nikanne 1991), a syntactic model based on autosegmental phonology. In this model of grammar, case is assigned to encode grammatical function according to a hierarchy of case which is mapped from left to right onto the NPs of a given clause:

|              |      |   |     |   |     |
|--------------|------|---|-----|---|-----|
| 58) GF Tier: | SUBJ | > | OBJ | > | ADV |
|              |      |   |     |   |     |
| Case Tier:   | NOM  |   | ACC |   |     |

Where an NP (or adverbial) is unavailable for mapping onto a Case-Tier, a 'shift' occurs so that the appropriate case gets assigned to the next available NP. Assuming that 'spreading' of case is possible, the Case-Tier is applied to Finnish by Maling (1993), who attempts to account for the familiar grammatical case data as well as the complex case patterns that appear when a verb is modified by several adverbials (data from Maling 1993:59):

- 59) a. Luot-i-n      Kekkose-en    yhde-n    vuode-n    kolmanne-n    kerra-n.  
          trust-past-1s   Kekkonen-ill   one-acc   year-acc   third-acc    time-acc  
          'I trusted Kekkonen for a year for the third time'
- b. Kekkose-en    luote-tiin      yksi      vuosi      kolmanne-n    kerra-n.  
          Kekkonen-ill   trust-pass/past   one-nom   year-nom   third-acc    time-acc  
          'Kekkonen was trusted for a year for the first time'
- c. Kekkose-en    luote-tiin      kolmanne-n    kerra-n    yksi      vuosi.  
          Kekkonen-ill   trust-pass/past   third-acc    time-acc   one-nom   year-nom  
          'Kekkonen was trusted for a year for the first time'

In (59a) above, where agreement morphology is present on the verb, both adverbial modifier phrases are assigned accusative case. In (59b), the impersonal passive verb assigns zero-accusative case to one of the adverbial modifiers, the duration phrase, while the frequency phrase gets accusative case, regardless of the linear order of the constituents.

To account for this ranked assignment of zero-accusative (nominative) case, she proposes the following version of the Case-Tier which incorporates a hierarchy of case assignment that extends beyond the core functions usually signalled by grammatical case (Maling 1993:60):

- 60) a.) NOM is assigned before ACC.  
 b.) only one XP can get assigned NOM, any remaining NPs get ACC.  
 c.) which XP gets NOM reflects the hierarchy of GFs, where SUBJ > OBJ > MEASURE > DUR > FREQ

In this system, the zero-accusative case form is assumed to be an instance of nominative, rather than accusative case, assigned to the highest GF in a given sentence. Although Maling's hierarchy successfully predicts the assignment of multiple accusatives in a single sentence (which is ruled out by Vainikka's 1989c analysis), she is forced to make minor stipulations to account for instances of multiple nominative elements in a sentence.

Another recent model of case assignment in Finnish, Case Position Theory, is proposed by Toivanen (1993). In this theory, each sentence in Finnish is capable of supporting up to 6 positions in a basically flat, rather than configurational, structure. Position 2 is occupied by the verb and 1,3,4 for the complements, with 5 and 6 remaining for local and instrumental functions (Toivanen 1993:112):

|        |    |             |             |       |       |
|--------|----|-------------|-------------|-------|-------|
| 61) 1. | 2. | 3.          | 4.          | 5.    | 6.    |
| NOM    | V  | ACC/<br>NOM | PAR/<br>NOM | LOCAL | INSTR |

NPs occur in the various positions according to three basic principles: that cases are associated primarily with certain positions; that cases can perform more than one function; but that the same case cannot be used for the same function at the same syntactic level. Like Maling's Case-Tier approach, nominative case in this model is preferred in what is effectively a case hierarchy.

### 2.3 Conclusions

Several themes recur in the analyses summarised above. Firstly, given the existence of 'nominative objects' which alternate with accusative animate pronouns in certain syntactic contexts, the nature of nominative case itself is an extremely contentious issue. For some linguists (Milsark 1985, Taraldsen 1986, Vainikka 1989c), nominative case is not a case at all, and elements which occur in their zero-marked, lexical forms are caseless. In other work which invokes the notion of case hierarchies (Maling 1993 and Toivanen 1993), nominative case is the highest-ranked grammatical case, assigned before all others. In other analyses (Reime 1989, 1993; Mitchell 1991) nominative case when it appears on complements is essentially a variant of accusative case, triggered by the absence of agreement features on the verb. These various interpretations of the Finnish data attempt to resolve the fundamental, and not recent, conundrum of the nature of morphological case: given an inflectionally rich language like Finnish, to what extent does surface case form reflect grammatical function? And to what extent are individual roles signalled by individual case endings?

In the following chapters, an attempt is made to resolve at least some of these questions. The distribution of 'zero-accusative' case is found to correlate with the failure of the verb to license an external theta-role coindexed with AGR. Finnish is argued to show split-S ergativity (an 'active' pattern) in these sentences, as the result of double case assignment of two case features simultaneously to a single argument. An individual case, then, may reflect the assignment of more than one 'role', but role type turns out to be relevant as well. While accusative and partitive case are closely related to verbal semantics and theta-role assignment, nominative case is argued to be associated with the case-assigning requirement of a particular functional category.

### 3. Patterns of Case Assignment

The Finnish case system, in which all arguments appear overtly marked for one of 15 productive morphological cases, provides data which exemplify classic debates in the field of linguistics over the relationship between form and function. On the one hand, the system seems relatively straightforward: accepting the “zero”, unmarked lexical form as Nominative case (as opposed to no case at all – see Milsark 1985, Taraldsen 1986, and Vainikka 1989c for discussion of this view) every DP in the language does receive overt morphological case. This fact should lend support to, or at least pose no problems for, a theory of grammar in which all arguments must receive abstract Case (the Case Filter in the Principles and Parameters framework, Chomsky 1981). However, Case Theory does not provide a straightforward mechanism to account for a systematic alternation between the /-t/, /-n/, and zero accusative forms. In this light the data from Finnish are so problematic that they have been used as evidence by several theoretical syntacticians (Vainikka 1989c, Milsark 1985, and Taraldsen 1986) to dispute the very existence of the Case Filter.

It is the distribution of the four grammatical cases, nominative, accusative, genitive, and partitive, which has generated such intense debate in the literature on Finnish. The data presented in the previous chapter illustrate the following patterns of case assignment. In general, syntactic subjects appear in nominative case in finite clauses and in genitive case in non-finite clauses. The form of object DPs varies depending on several sets of syntactic and semantic criteria. Firstly, an alternation between accusative and partitive case is determined by a complex set of semantic factors. If a DP does not receive partitive case, it may appear in any one of three ‘accusative’ forms. One form, *-t*, is distinct from the other two and appears with plurals and animate pronominals only, thus must be in some sense lexically determined. The other two realisations of accusative case, *-n* and zero (nominative case), are conditioned by syntactic environment. In this chapter, this syntactic environment is characterised more precisely.



Data was given in Chapter 2 to illustrate patterns of case assignment in transitives, impersonal passives, unaccusatives, imperatives, and complex predicates. In the previous literature on the topic, an interesting correlation has been noted: in sentences where nominative-marked objects surface, the verb lacks full subject agreement morphology and/or a nominative subject. Assuming agreement marking to be the morphological reflex of a coindexed subject, this apparent correlation between elements internal and external to VP may present a theoretical problem in frameworks that assume a hierarchical, configurational structure. Milsark (1985:324-5) makes this point in response to earlier suggestions that nominative objects appear when subjects are absent:

A somewhat more interesting difficulty faced by the traditional analysis is that it implies a rather bizarre and powerful principle of case assignment. If indeed Finnish has a standard phrase structure containing a phrasal projection of V, as I am assuming, any principle which determines object case as a direct consequence of the presence or absence of an overt subject, however the notion of overt subject is to be construed, will be structurally global to a degree that is unprecedented and undesirable. If one takes the distinction between overt nominative and overt accusative case-marking in objects to be a reflex of the assignment of different abstract Case in NO [Nominative Object] and AO [Accusative Object] structures, the object Case assignment metric would be sensitive to structural information represented outside the government domain of V.

Burzio's Generalization (Burzio 1986) was formulated to capture this type of nonlocal dependency in terms of the verb's ability to theta-mark an external argument and assign case. This generalisation is tested for Finnish in the current chapter<sup>1</sup>. In section 3.1 the relationship between a verb's compositional semantics, encoded in the syntax via theta-role assignment, and its ability to assign objective case is explored. Following a review of the structural definitions of internal vs. external argumenthood, the predictions made by Burzio's Generalization are tested for a variety of case-related phenomena in Finnish. Next, the relationship between verbal agreement morphology and case

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<sup>1</sup> To a certain extent, the difficulties described by Milsark in suggesting a dependency between structurally nonlocal arguments of V has been resolved since Chomsky (1993), where a lower projection of AGR (AGR<sub>O</sub>) is postulated external to V in which accusative case may be assigned to an object. In such a model, both arguments of V are external to VP at S-structure, eliminating the basic structural asymmetry inherent in previous approaches. However, this model has spawned new problems; for example Koopman and Sportiche (1991) argue that AGR<sub>O</sub> is external to V but internal to the maximal projection of V. Even if a lower objective case-assigning node is assumed to project external to V, reconciling an apparent dependency between the case assigned by AGR<sub>O</sub> and information encoded in AGR<sub>S</sub> would still have wide-ranging theoretical ramifications.

is discussed, including previous accounts which postulate a direct link between the presence of a verbal agreement feature and the case-assigning properties of the verb. External arguments are argued to be base-generated in  $\text{spec(AGRP)}$ , coindexed with agreement morphemes. Finally, it is proposed that the case assigning patterns of Finnish exemplify a split-ergative (specifically split-S) system.

### 3.1 Case and External Arguments

#### 3.1.1 Argument Structure and the Theta Criterion: Theoretical Assumptions

How exactly does a verb theta-mark its arguments? Following proposals by Williams (summarised in Williams 1995), the theta-marking of arguments by a verb is assumed to encode a *relation* between a V and an NP (or DP) which must be realised at all levels of representation according to the Projection Principle (Chomsky 1981:29). The argument structure of the verb encodes the (minimum) number of constituents required for interpretation<sup>2</sup>. There is a structural distinction between *internal* arguments (canonically objects), for which V subcategorises as complements, and *external* arguments (canonically subjects), which are theta-marked by the VP predicate composed of the verb plus its internal argument(s) (if any); the verbal predicate VP is therefore a one-place predicate whose head binds the external argument like an operator (Williams 1995:106). Given the phrase structure generated by X-bar theory, relations between a transitive verb and its internal argument(s) are local, i.e. the head V and its complement are sisters, while the relations between V and its external argument are non-local, since the external argument is located external to V:

$$1) \quad \underset{\text{external}}{\text{NP}_\alpha} \leftarrow \theta \left[ \underset{\text{VPi}}{\text{V}} (\alpha_i, \beta) \right] \theta \Rightarrow \underset{\text{internal}}{\text{NP}_\beta}$$

<sup>2</sup>These relations may be formalised in various ways, e.g. by the use of brackets as in  $\text{TOAST}(A, B)$ , where A and B represent the arguments necessary for the interpretation of the verb *toast*, namely an agent (the person who is toasting) and a patient (the thing being toasted, e.g. a slice of bread).



In the diagram above, the verb requires two arguments,  $\alpha$  and  $\beta$ ; it theta-marks its complement  $\beta$  as an internal argument. The external argument  $\alpha$  is coindexed as an operator with the predicate VP, which in turn theta-marks the external argument outside the VP. In order to allow theta-relations to be maximally local, Williams (1995:106) restricts the position of the external argument to that of sister of the maximal projection of the verb. The position of base-generation of subjects in Finnish is discussed in greater depth later in the chapter.

In its most basic conception, argument structure simply specifies the number of participants required for interpretation; transitivity or intransitivity of verbal predicates is accounted for in terms of the number of arguments licensed by  $V^3$ . Among predicates which license a single argument, a distinction is drawn between unergatives such as *blush* and *sneeze*, which do not require an internal argument, and unaccusatives such as *vanish* and *arrive*, which fail to theta-mark an external argument. Although the syntactic status of external vs. internal arguments is clearly defined, the precise mechanism underlying their interpretation is less so. Theta Theory does not offer a particularly detailed account of *why* external arguments tend to be assigned ‘subject’ roles such as AGENT or INSTRUMENT, and whether or not their syntactic position has any bearing on their eventual interpretation.

### 3.1.2 Finnish and Burzio’s Generalization

In Chapter 2, previous literature was reviewed on the topic of case in Finnish. Particularly relevant for the current work is Burzio’s Generalization (Burzio 1986), discussed in the context of Finnish by Milsark (1985) and Vainikka (1989c), which makes predictions about the link between case and argument structure. Specifically, the generalization captures a distributional correlation cross-linguistically between verbs which license external arguments and verbs which can assign accusative case.

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<sup>3</sup>The troublesome issue of optionality of arguments will not be addressed here.

The theoretical cornerstone of Vainikka's (1989c) account of case assignment is that the Case Filter does not operate in Finnish, a position also held by Taraldsen (1986) and Milsark (1985). One of the main reasons for Vainikka's rejection of the Case Filter is the apparent violation of Burzio's Generalization by pronouns in Finnish passives. Burzio's Generalization states that if a verb fails to license an external theta-role, it is unable to assign accusative case, and conversely, if a verb fails to assign accusative case, then it also fails to theta-mark an external argument. As a corollary, the generalisation predicts that verbs that assign accusative case license an external theta-role, and vice-versa (Burzio 1986: 178-9):

$$\begin{array}{l}
 2) \quad -\Theta_S \rightarrow -A \\
 \quad \quad -A \rightarrow -\Theta_S \\
 \\
 \quad \quad A \leftrightarrow \Theta_S
 \end{array}$$

The generalisation makes predictions across a wide range of data cross-linguistic data from a variety of sentence types, including unaccusatives, raising verbs and copular constructions. In particular, the attested data from passives in languages like English are predicted.

Within the Principles and Parameters framework, two main analyses of passivisation have emerged. Marantz (1984) argues that passivisation is essentially a lexical property of the passive morpheme. According to this proposal, the morpheme itself has the property [-log sub] (i.e. it lacks a logical subject), disallowing the licensing of an external theta-role. Affixation of the passive element to V transfers this syntactic properties to the verb. Baker (1988) and Jaeggli (1986) argue that the passive morpheme itself receives the verb's external theta-role; in Baker's analysis, the passive element has the status of an argument and receives the objective Case feature assigned by V, thus preventing the verb's internal argument from receiving Case. Although the two analyses differ with respect to the specific mechanism of passivisation, they both provide explanations for the range of attested data captured by Burzio's Generalization.

Whichever approach is adopted for Finnish,<sup>4</sup> the data is problematic. As Vainikka (1989c) notes, the generalisation is violated because pronominal arguments in Finnish passives appear in accusative case:

- 3) Häne-t        valokuva-ttiin        lentoasema-lla  
     him/her-acc   photograph-pass/past   airport-at  
     ‘He/she was photographed at the airport’

Full DP arguments, however, conform to the generalisation, appearing in nonaccusative (nominative) case as predicted:

- 4) Opettaja        valokuva-ttiin        lentoasema-lla  
     teacher-nom   photograph-pass/past   airport-at  
     ‘The teacher was photographed at the airport’

The question to be addressed here is, to what extent can Burzio’s Generalization capture the data from Finnish to account for the distribution of zero-accusative (‘nominative object’) case among full DP arguments, and do animate pronouns consistently violate the generalisation? In other words, given that the generalisation is designed to predict the distribution of *nonaccusative* case in passives and unaccusatives, can it predict the occurrence of nominatively-marked internal arguments elsewhere? And does the appearance of zero-accusative objects in Finnish correlate with the verb failing to theta-mark an external argument?

Recall that the generalisation ((2) above) is formulated as a two-way implication: if a verb fails to theta-mark an external argument then it fails to assign accusative case, and if a verb fails to assign accusative case then it fails to theta-mark an external argument. The first half of the hypothesis is tested first.

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<sup>4</sup> The facts that the passive morpheme contains a agreement-like element (-Vn) diachronically derived from a third person possessive affix, and that the agent of an impersonal passive in Finnish is interpreted as being third person, human and plural suggest that Baker’s (1988) analysis is the correct one for Finnish. Adoption of Baker’s proposal entails that the Finnish passive morpheme is theta-marked as the external argument of the passive verb. However, Baker’s suggestion that the same element is also assigned accusative case by V runs into familiar problems with the data from accusatively-marked Finnish pronouns.

### 3.1.3 Testing Burzio's Generalization I

As mentioned above, passive verbs either fail to theta-mark an external argument or the argument is absorbed by passive morphology and so is unavailable for case-marking.<sup>5</sup> Other types of verbs argued to lack an external argument include 'ergative' or unaccusative verbs, copular constructions and raising verbs (Chomsky 1981, Burzio 1986, Belletti 1988, etc.).

Certain verbs in Finnish show properties of raising. Standard Principles and Parameters theories of raising motivate movement on Case-theoretic grounds: since raising verbs are unaccusative (i.e. fail to license an external argument), they cannot assign case to the lower clause subject, which forces it to raise to the higher subject position to get Case. As we have seen in the case of Finnish passives, and as noted by Vainikka (1989c), Finnish DPs in general do not appear to undergo Case-seeking movement. Instead, Finnish has relatively free word order and movement appears to be motivated by a more general licensing condition that requires spec(IP) (Vainikka 1989c) or T (Vilkuna 1989) to be filled by lexical material. However, unusual case-related effects do surface on the *object* of the lower VP in certain raising-type constructions.

<sup>5</sup> In fact, as described in section 2.1.2 of the previous chapter, only Finnish verbs which can be conceived of as having a human agent can take impersonal passive morphology, a requirement that excludes unaccusative verbs. Moreover, Shore (1988) notes that the implicit subject of a passive must be interpreted as human and plural; the builder(s) of the island in the example below could not be interpreted as being animals, for example beavers, or as God:

- i. Rakenne-taan    pieni        saari.  
     build-pass/np   small-nom   island-nom  
     'A small island will be built'

The underlying plurality of the absorbed external argument of impersonal passive verbs surfaces as plural agreement on predicate adjectives:

- ii. Venee-ssä    ol-laan        varovais-i-a  
     boat-in       be-pass/np    careful-pl-part  
     'In a boat people are careful'
- iii. \*Venee-ssä    ol-laan        varovais-ta  
     boat-in       be-pass/np    careful- part

Finnish has several verbs which have been given a straightforward raising analysis by Finnish grammarians (e.g. Hakulinen and Karlsson 1979:162-163 and Vainikka 1989c:55-58), such as *näyttää*, 'to appear', 'to seem'; *kuulua*, 'to sound'; and *vaikuttaa*, 'to seem'. (Other verbs which also may show properties of raising are discussed in section 3.1.4 below.) These verbs take two types of clausal complement, participial and finite (headed by the complementiser *että*). When the lower clause is finite, both full DPs and animate pronouns in subject position of the lower clause appear in nominative case:

- 5) a. Näyttä-ä si-ltä, että Mauno on väsynyt  
 appear-3s it-abl that Mauno is/3s tired  
 'It appears that Mauno is tired'
- b. Näyttä-ä si-ltä, että hän on väsynyt  
 appear-3s it-abl that he/she-nom is/3s tired  
 'It appears that he/she is tired'

In contrast to the data from 'subjects' of impersonal passives, both pronouns (7 and 8) and full DPs (6) raised to subject position appear in nominative case and trigger agreement on the raising verb (8):

- 6) a. Mauno näyttä-ä ole-van väsynyt.  
 Mauno-nom appear-3s be-pcp/np tired  
 'Mauno appears to be tired'
- b. \*Mauno-n näyttä-ä ole-van väsynyt.  
 Mauno-acc appear-3s be-pcp/np tired
- 7) a. Hän näyttä-ä ole-van väsynyt.  
 S/he-nom appear-3s be-pcp/np tired  
 'S/he appears to be tired'
- b. \*Häne-t näyttä-ä ole-van väsynyt.  
 S/he-acc appear-3s be-pcp/np tired
- 8) Sinä näyt-tä ole-van väsynyt.  
 you-nom appear-2s be-pcp/np tired  
 'You appear to be tired'

However, pronouns raised from a passivised lower clause do appear in accusative case while full DPs appear in nominative case (data from Hakulinen and Karlsson 1979:162):

- 9) a. Sinä      näy-t      asete-tun      ensimmäise-lle      ehdokassija-lle  
       you-nom   seem-2s   run for-pass/pcp   first-all        candidate-all
- b. Sinu-t    näky-y   asete-tun      ensimmäise-lle      ehdokassija-lle  
       you-acc   seem-3s   run for-pass/pcp   first-all        candidate-all  
       ‘You seem to been been chosen as the first candidate’

This pattern of case assignment suggests that the ‘zero-accusative’ alternation with accusative pronouns surfaces when the DP in question originates as a theta-marked internal argument, but not when it has undergone subject-to-subject raising. We will return to this issue in Chapter 6.

Along with raising verbs and passives, unaccusatives and copular verbs are also described as failing to license an external argument (Burzio 1986, Belletti 1988 and Lasnik 1992). In traditional Finnish grammars, the term ‘existential’ is used for a range of sentence types that broadly encompass unaccusatives and most copular constructions. These constructions are described in sections 2.1.2.2 and 2.1.2.3 of the previous chapter. Finnish unaccusative verbs, like their Italian counterparts, allow inversion:

- 10) a. Perhee-seen    synty-i      tyttö  
       family-to    born-3s/past   girl-nom  
       ‘To the family was born a girl’
- b. \*Perhee-seen    synty-i      tytö-n  
       family-to    born-3s/past   girl-acc

As mentioned previously, animate pronouns in postverbal position are ungrammatical:

- 11) a. \*Perhee-seen    synty-i      minu-t  
       family-to    born-3s/past   me-acc
- b. \*Perhee-seen    synty-i      minä  
       family-to    born-3s/past   I-nom

Animate pronouns in subject position of the same class of verb are, in contrast, felicitous, and trigger agreement morphology on the verb:

- 12) Minä synnyi-n perhee-seen  
 I-nom born-1s family-to  
 'I was born to the family'

Leaving aside for the moment the question as to why pronouns are ungrammatical in complement position, examples like (12) raise interesting issues about the Unaccusative Hypothesis in general. If unaccusativity is indeed a lexical phenomenon, then the subject in (12) must be base-generated as an internal argument and raise to subject position, triggering agreement morphology in the process. If this is the case, however, then unaccusatives pattern radically different from all other similar sentence types in Finnish, in particular impersonal passives, where derived 'subjects' fail to trigger agreement. Data from various native American languages (Mithun 1991) illustrate that the unergative/unaccusative distinction is not a cross-linguistic inherent *lexical* property but may be a *syntactic* expression of differing values for aspect, agency and/or affectedness; Laitinen and Vilkuna (1993) have argued along similar lines for Finnish. On the basis of these arguments, it is suggested here that unaccusativity, whether lexically or syntactically-driven, allows single arguments to be base-generated either internal or external to VP. The surface subject in (12), therefore, is a subject (external argument) at all levels of the derivation, which accounts for the presence of agreement morphology.

Similar effects surface in Finnish existential copular constructions with respect to both word order and agreement facts, and the possibility of pronouns occurring postverbally. Full DPs may occur postverbally in nominative case or as subjects:

- 13) a. Koulu-ssa on uude-t opettaja-t  
 school-in is/3s new-nom/pl teacher-nom/pl  
 'The school has new teachers'
- b. Uude-t opettaja-t ovat koulu-ssa  
 new-nom/pl teacher-pl/nom is/3p school-in  
 'The new teachers are at the school'



Animate pronouns in this construction are restricted to subject position:

- 14) a. \*Koulu-ssa on me/meidät  
 school-in is/3s we-nom/us-acc
- b. Me ole-mme koulu-ssa  
 We-nom be-1p school-in  
 'We are at the school'

However, there is a similar construction,<sup>6</sup> the possessive, in which animate pronouns may occur in complement position, and in accusative case:

- 15) a. Minu-lla on kynä.  
 I-adess is/3s pen-nom  
 'I have a pen'
- b. Minu-lla on sinu-t.  
 I-adess is/3s you-acc  
 'I have you'
- c. \* Minu-lla on sinä.  
 I-adess is/3s you-nom

The evidence from possessive copular constructions suggests that copular verbs may assign accusative case despite failing to assign an external theta-role, but only to animate pronouns. Again, assuming that copular verbs are unaccusative, Burzio's Generalization holds for full DPs but not for pronouns.

### 3.1.4 Testing the hypothesis II

The second half of the implication states that where verbs fail to assign accusative case, they also fail to theta-mark an external argument. The remaining zero-accusative sentence types are examined in this section to test this half of the generalisation.

<sup>6</sup> Freeze (1992) provides persuasive cross-linguistic evidence that existentials and possessive copular constructions share identical structures. His analysis will be discussed in greater detail in Chapter 4.



One environment in which zero-accusatives occur is in the clausal complements of modal-like necessity verbs such as *täytyä*, 'must'; *pitää*, 'must/should', and *tarvita*, 'need'. The surface subject of the necessity verb in these constructions occurs in genitive case (in contrast to accusative pronominal subjects in passives). This holds true for both full DPs and pronouns:

16) a. Nais-ten<sup>7</sup>      pitäisi      matkusta-a      Ranska-an.  
       woman-pl/gen should-3s travel-inf      France-to  
       'The women should travel to France'

b. \*Naise-t      pitäisi      matkusta-a      Ranska-an.  
       woman-pl/acc should-3s travel-inf      France-to  
       'The women should travel to France'

17) a. Sinu-n      pitäisi      matkusta-a      Ranska-an.  
       you-gen should-3s travel-inf      France-to  
       'You should travel to France'

b. \*Sinu-t      pitäisi      matkusta-a      Ranska-an  
       you-acc should-3s travel-inf      France-to

Laitinen and Vilkuna (1993) argue that these verbs are monadic predicates taking an infinitival complement.<sup>8</sup> Their analysis entails that the genitive 'subject' is actually an argument of the lower infinitival clause. If their analysis is adopted, then Burzio's Generalization predicts nonaccusative case for both pronominal and full DP surface subjects.

However, the situation is complicated by patterns of case assignment in the lower VP. Although the subjects of necessity constructions appear in genitive case, the ob-

<sup>7</sup> Because the surface case forms of the singular genitive and the singular accusative are homophonous, plural DPs have been used in these examples to make the distinction between accusative and genitive case visible.

<sup>8</sup> Based on a large corpus of dialectal data, Laitinen and Vilkuna distinguish between necessity verbs which have genitive surface subjects from those which have nominative subjects. They analyse genitive subjects as arguments of the clausal complement and nominative subjects as arguments of the necessity matrix. They also note interesting correlations between the relative animacy of the surface subject of the necessity predicate and the choice of case among speakers. Because genitive subjects occur with greater frequency in standard Finnish and are nearly always judged to be felicitous in all dialects, only the genitive necessity construction is discussed in the current work.

ject of the *lower* clause in this construction shows the familiar nominative-accusative case effects:

- 18) a. Nais-ten            pitäisi    tava-ta    presidentti.  
       woman-pl/gen    should-3s    meet-inf    president-nom  
       'The women should meet the president'
- b. \*Nais-ten            pitäisi    tava-ta    presidenti-n.  
       woman-pl/gen    should-3s    meet-inf    president-acc
- 19) a. Nais-ten            pitäisi    tava-ta    heidä-t.  
       woman-pl/gen    should-3s    meet-inf    them-acc  
       'The women should meet them'
- b. \*Nais-ten            pitäisi    tava-ta    he.  
       woman-pl/gen    should-3s    meet-inf    them-nom

These data suggest that like impersonal passives and unaccusatives, *necessive* verbs fail to license an external argument, but moreover, that infinitives in Finnish are non-case-assigning. Assuming that the *necessive* verb governs the lower clause object, Burzio's Generalization again predicts the data for full DPs but not for animate pronouns in this construction.

A slightly more problematic construction for Burzio's Generalization is the data from Experiencer verbs with partitive subjects. Case marking in the lower clause in this construction mirrors that in clauses headed by *necessive* verbs:

- 20) a. Minu-a    pelotta-a    ava-ta    ovi  
       I-part    scare-3s    open-inf    door-nom  
       'I'm afraid to open the door'
- b. Minu-a    pelotta-a    näh-dä    häne-t  
       I-part    scare-3s    see-inf    him/her-acc  
       'I'm afraid to see him/her'

If the Experiencer subject of these sentences is base-generated as an external argument, then the generalisation appears to be violated. The *-tt* suffix in these verbs is historically a causative; however, the 'subject' is interpreted as affected, not agentive. The agent 'causer' appears to have been absorbed as a result of causative derivation.

Furthermore, no agreement morphology is present on the verb, further evidence that no external argument is base-generated.

Burzio's Generalization has so far predicted the Finnish data. However, there is one sentence type in Finnish which is *not* predicted by the second part of Burzio's Generalization. In first- and second-person imperative sentences, the internal argument of V cannot be assigned accusative case if it is a full DP or inanimate pronoun:

- 21) a. Osta karta!  
       Buy-imp map-nom  
       'Buy a map!'
- b. \*Osta karta-n!  
       Buy-imp map-acc

Although the argument structure of imperatives has been little discussed in the generative literature, it seems unlikely the imperatives actually fail to assign an external theta-role. Failure to assign an external theta role is generally attributed to either lexical properties of the verb, as is the case of raising and unaccusative verbs, or as the result of (morpho)syntactic processes as in the case of passivisation. Since imperative morphology is extremely productive, the latter hypothesis seems the more likely of the two; however, the 'missing' external arguments of imperatives and passives have fundamentally different properties. Firstly, the subject of passives is interpreted in various ways, depending on the language in question; in English, the subject of an agentless passive verb is interpreted as non-specific, although semantic properties of the verb might restrict the interpretation to [+ANIMATE], [+HUMAN], etc. as in *The branch was chewed* or *Songs were sung*. In Finnish, the subject of impersonal passives receive an interpretation as [+HUMAN] and [+PLURAL], but the referent is still non-specific. The referent in first and second person imperatives, however, is specific. The second difference between the subjects of passives and imperatives lies in the fact that overt subject referents in impersonal passive sentences are ungrammatical, while overt referents in imperatives are grammatical (though restricted to postverbal position):

- 22) a. Eilen illa-lla laule-ttiin laulu.  
       Yesterday evening-adess sing-pass/past song-nom  
       'They sang a song last night'

- b. \* He            laule-ttiin        laulu  
       They-nom sing-pass/past song-nom  
       'They sang a song'

- 23) a. Soita        isoäidi-lle!  
       call-imp grandmother-all  
       'Call grandmother!'

- b. Soita        sinä        isoäidi-lle!  
       call-imp you-nom grandmother-all  
       'You call grandmother!'

- c. \*Sinä        soita        isoäidi-lle!  
       you-nom call-imp grandmother-all

These facts suggest that imperatives may theta-mark an overt external argument, and thus differ from the other sentence types where accusative case fails to be assigned to internal arguments. However, subjects licensed by imperatives do not behave like standard transitive subjects in a number of important ways, which are discussed in section 3.4.

With the exception of imperatives, then, Burzio's Generalization consistently predicts the distribution of zero-accusative case among full DP arguments, and consistently fails to predict the appearance of accusative animate pronouns in the same environments. In the next section, a possible relationship between a verb's case-assigning ability and the presence of agreement morphology is explored.

### 3.2 Agreement Morphology and Case

In Chapter 1 a functional head AGR was posited that hosts verbal subject agreement features. Previous accounts of case marking phenomena in Finnish (Eliot 1890:182, Reime 1989, 1993; Vainikka 1989c; Mitchell 1991b) have focussed on verbal agreement as the pivotal syntactic feature which determines the case-marking of the complement DP. This section will examine the hypothesis that an agreement feature (or functional head) is involved in accusative case assignment, as has been claimed in previous analyses.

In environments where zero-accusative case is assigned, subject agreement is underspecified. In these contexts, which include impersonal passive, unaccusative, neccessive, causative, and some imperative constructions, verbs appear with third person singular agreement morphology as a default (with the exception of imperatives). The relevant data is presented in section 2.1.2 in the previous chapter. In contrast, in transitive sentences where the verbal complex contains productive subject agreement, full DP internal arguments receive accusative case. There appears to be a correspondence, then, between morphologically overt subject agreement and the assignment of accusative case to full DPs.

Both Vainikka (1989c) and Reime (1989,1993) propose analyses in which a verbal agreement feature is required for the assignment of accusative case. In Vainikka's model, the accusative case ending originates in spec(VP) as the structural genitive case, the default for subjects. Subjects are generated VP-internally, and get genitive case by structural default. If agreement features in IP require the subject to raise, the genitive *-n* affix is "stranded" in VP and percolates to the object, surfacing as accusative case. The subject NP, having left its genitive case features behind in VP, raises to IP as a caseless argument. Verbs whose subjects are not required to raise to IP due to a lack of agreement features there remain in VP, keeping the genitive case feature in spec(VP). Vainikka's analysis essentially relies on the notion that agreement features in INFL are always present but can be 'strong' or 'weak', the former requiring the subject to raise out of spec(VP), the latter allowing the subject to remain *in situ*.

Reime's analysis involves the major category features [+V, (-N)]. He formalises the dependency between subject agreement and accusative case by in terms of visibility under the Case Filter; verbs which are [-AGR] (and therefore (-N)) can assign 'visible' zero-objective case, while [+AGR] verbs fail to assign 'visible' case, so a *-n* affix is required for the object NP to pass the Case Filter. The main drawback to Reime's proposal is that he does not offer any motivation for his initial stipulation that verbs require an AGR feature to be able to assign visible case.

Both of these models attempt to reconcile an observed dependency between verbal agreement, which encodes a relation between a verb and its external argument, and accusative case, which encodes a syntactic relation internal to VP. Vainikka achieves this by equating genitive subject case features with accusative case features, while Reime postulates a link between AGR and the verb's ability to assign visible case.

The complex relationship between agreement morphology and case is highlighted in data from impersonal passives and generics (see Hakulinen and Karttunen 1973 for a more detailed characterisation of 'missing person' constructions in Finnish). Singular generic referents in Finnish are signalled by third person singular verbal morphology with no overt pronominal element (cf. French *on*). Timberlake (1975) notes that Finnish generics lack an overt subject yet assign accusative case to full DP and inanimate pronoun objects:

- 24) Se-n arva-a  
       it-acc guess-3s  
       'One guesses it'

Under a hypothesis linking agreement with accusative case, the verb in (24) is predicted to be inflected with verbal agreement in order for accusative case to be assigned. Unfortunately the morphology in such examples is uninformative; third person singular is the default person and number marking in sentences which lack subject agreement. However, the singular generic reading of the sentence cannot be made plural by changing the verbal agreement morphology to third person plural:

- 25) \*Se-n arvaa-vat  
       it-acc guess-3p  
       'They (nonspecific) guess it'

Third person plural nonspecific referents in Finnish are instead signalled by impersonal passive morphology:

- 26) Se arva-taan  
       it-nom guess-pass/np  
       'They (nonspecific) guess it'

(25) suggests that the third person agreement morph in generic sentences is not productive, and may encode a default, 'weak' agreement feature. However, there is also evidence to suggest that strong agreement features are present in generics: impersonal passives cannot bind third person possessive affixes, but singular generics can (Hakulinen and Karlsson 1979:254):

- 27) a. Täällä pidäte-tään hengitys-tä  
       Here hold-pass/np breath-part  
       'They're holding (their) breath here'
- b. \*Täällä pidäte-tään hengitys-tä-än  
       Here hold-pass/np breath-part-Px3
- 28) a. Jos [pro] pidättä-ä hengitys-tä-än,...  
       If pro hold-3s breath-part-Px3  
       'If one holds one's breath...'

In (27b) above, no antecedent is available to bind the possessive affix. This can be accounted for as the result of passivisation, since the impersonal passive morphology has absorbed the external argument. In (28), the only third person argument available to bind the anaphoric possessive affix is the nonovert pronoun *pro*<sup>9</sup>, which, if present, must be coindexed with the third person agreement morph. Vainikka (1989c:232-236) notes that *spec(IP)* is required to be filled in this construction, and that this position may be licensed by nonarguments. She posits a nonovert pronominal subject for this construction that remains in situ in *spec(VP)*, allowing *spec(IP)* to be available as a landing site for other elements. Despite the apparent lack of productivity in generic agreement morphology, Vainikka's proposal finds support in case-related data. DP objects in clausal complements of generic verbs get assigned accusative case as if the matrix verb licensed an external argument, in contrast to similar constructions headed by impersonal passive verbs:

<sup>9</sup> To posit generic *pro* as the dropped 'subject' of generics is admittedly an oversimplification; Hakulinen and Karttunen (1973) note that the semantics of Finnish generics are actually quite complex. Only a certain subset of verbs may appear with third person singular generic agreement, and not all adverbial modifiers may appear in generic sentences. The generic referent may actually be the speaker, or a generic pronoun corresponding to 'one' in English, or the quantifier 'whoever', depending on the verb and the construction.



- 29) a. Täällä voi luke-a se-n.  
       here may-3s read-inf it-acc  
       ‘Here one may read it’
- b. Täällä voi-daan luke-a se.  
       here may-pass/np read-inf it-nom  
       ‘Here people may read it’

The examples above suggest that the verb’s ability to license an external argument (in the case of generics, this argument may be nonovert *pro*<sup>10</sup>) is equally relevant for case assignment as the presence of overt agreement morphology *per se*, and predicts that verbs that are lexically unaccusative (or [-log sub] in Marantz’ (1984) terms) can take generic 3s morphology but will fail to assign accusative case. The following examples bear out this generalisation:

- 30) a. Baari-ssa voi osta-a olu-en.  
       Bar-in can/3s buy-inf beer-acc  
       ‘In the bar one can buy a beer’
- b. Baari-ssa täyty-y osta-a olut.  
       Bar-in must-3s buy-inf beer-nom  
       ‘In the bar one must buy a beer’

In (30), both verbs show third person agreement morphology and the subjects of both receive a generic interpretation. However, the DP complement in (a) gets assigned accusative case, whereas the complement in (b) is assigned nominative case. Clearly in these cases agreement morphology has no bearing on the ability of the verb to assign case. The relevant fact about the verbs *voida* ‘may/can’ and *täytyä* ‘must’ is that *voida* licenses an external argument (which gets assigned nominative case and agrees with the verb) when it selects a clausal complement, while *täytyä* fails to license an external argument, inducing raising of the lower VP subject:

<sup>10</sup> It is suggested here that generics license *pro*, but since a VP-external subject hypothesis is adopted, the question remains as to how non-arguments may move into *spec(AGRP)* in generic constructions if *pro* is coindexed with AGR in *spec(AGRP)*. Vainikka’s adoption of VP-internal subjects allows movement into this position; in the current analysis, it may be that nonarguments must be located in *spec(T/M)* rather than *spec(AGR)* in generics.



- 31) a. Minä voi-n osta-a olue-n.  
       I     can-1s buy-inf beer-acc  
       'I can buy a beer'
- b. Minu-n täyty-y osta-a olut  
       I-gen must-3s buy-inf beer-nom  
       'I must buy a beer'

In Chapter 6 such verbs are given a raising analysis, wherein the matrix subject originates as an argument of the lower clause. This movement would be ruled out if *pro* was licensed as the implicit subject of the modal verb, since the subject position would be unavailable as a landing site for the lower subject.

The proposed focus on argument structure rather than agreement morphology as the more important condition for predicting the appearance of nominative-marked objects reinforces the correlations stated in Burzio's Generalization. Imperatives, however, remain the most problematic data for the generalisation. The argument structure of imperatives is discussed later in this chapter.

### 3.3 'Weak' and 'Strong' AGR

Throughout the literature related to inflectional categories, the terms 'weak' and 'strong' have been used to describe agreement features in two different senses, language-specific and construction-specific. Languages with impoverished agreement morphology have been described as having weak agreement; in Chomsky (1993), weak AGR features in English mean that elements do not raise to AGR to check off features until after Spell-Out. In contrast, the phenomenon of pro-drop has traditionally been ascribed to the relative strength of agreement features in certain languages. Given that Finnish inflectional morphology is rich, and pro-drop is possible in the first and second person paradigm slots, Finnish presumably falls into the same loosely-defined category as Spanish and Italian in the 'strength' of its agreement.

Within a given language, however, agreement features have also been described as weak or strong, depending on the construction. Vainikka (1989c) accounts for the ap-

pearance of genitive subjects in neccessive constructions in terms of the strength of agreement features in INFL in such constructions: because agreement features are weak, the subject of the modal verb fails to raise to become coindexed with agreement in INFL, instead remaining in spec(VP) in genitive case.

The notion that AGR may vary in strength depending on the construction is a particularly relevant one for Finnish. In an entire range of sentence types, described in detail in Chapter 2, agreement morphology is set as a default third person singular, not coindexed with any argument. What then licenses a functional head containing defective/default agreement? If the head is devoid of  $\phi$ -features, can it still head a projection?

Consider the following sentences with 'default' agreement:

- 32) Koulu-sta tule-e laps-i-a.  
 school-from come-3s child-pl-part  
 'Some children are coming from school'
- 33) Laulu-t laule-ttiin.  
 song-pl/nom sing-pass/past  
 'The songs were sung'
- 34) Huomenna kuulu-u matkusta-a Helsinki-in.  
 tomorrow hears-3s travel-inf Helsinki-to  
 'It is said that tomorrow one will travel to Helsinki'

In all three sentences, the default third person agreement morpheme fails to be coindexed with an external argument, yet it surfaces anyway. However, if the morpheme were absent, the resulting verb forms would be unacceptable.<sup>11</sup>

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<sup>11</sup> In negated impersonal passives, the 'agreement' morpheme is absent, and a participial affix appears on the passivised verb:

- i. Laulu-j-a e-i laule-ttu.  
 song-pl-part neg-3s sing-pass/pcp  
 'The songs were not sung'

Thus although a phonological rule is available that allows the passive 'stem' to surface without agreement, the default agreement morpheme resurfaces on the negation marker stem *e-* instead. This stem cannot occur without an affix.

The unacceptability of the verb forms above suggest that 'weak' AGR in Finnish is licensed by morphophonological rules rather than the syntax; verbal stems in Finnish require affixes to be phonologically acceptable. Although devoid of syntactic and semantic content, agreement affixes are nevertheless required by verbal stems. Phonological material itself is sufficient to license a projection of AGR under the PF-Licensing Principle, a constraint on representation discussed in greater detail in the next chapter. Therefore, it is proposed that 'weak' AGR is still licensed as a syntactic projection even when it does not encode  $\phi$ -features ( $-\phi$ ).

### 3.4 *The Argument Structure of Imperatives*

Imperatives are one of the sentence types in which zero-accusative objects appear. Cross-linguistically, Finnish is unusual in having nominatively-marked objects of imperatives (Sadock and Zwicky 1985:174-5), which, according to the various generalisations described above, indicates that first and second person imperatives seem to behave as monoargumental predicates for the purposes of case assignment. However, as is evident from the discussion above on argument structure, the first and second person imperative data are not predicted by Burzio's Generalisation, since imperatives do assign an external theta-role. Before an account of case assignment is given in the next chapter, the status of the external argument of imperative verbs is clarified.

In the context of Finnish syntax and morphology imperatives show several interesting features. Firstly, the morpheme that signals the imperative mood fails to show consistent morphophonological properties throughout the paradigm: there is no single imperative marker for all paradigm slots and all sentence types. In the second person singular, the imperative is marked by a 'zero' morph that triggers consonant gradation in the verbal stem:

- 35) a. Anna            kirje            äidi-lle!            (from *antaa*, 'to give')  
       give-imp/2s   letter-nom   mother-to  
       'Give the letter to mother!'

In all other possible paradigm slots the imperative mood is signalled by a paradigm of 'agreement' morphs, all beginning with the consonant *k*- but which fail to trigger consonant gradation in the preceding syllable:

- 36) 1p: Anta-kaamme kirje äidi -lle! 'Let us give the letter to mother!'  
 2p: Anta-kaa kirje äidi -lle! 'Give (pl. addressee) the letter to mother!'

Although the addressee referent can be overt (surfacing in nominative case), it can only occur in postverbal position, in contrast to most finite clauses where word order is generally free:

- 37) a. Sinä sö-i-t banaani-n.  
 you-nom eat-past-2s banana-acc  
 'You ate the banana'
- b. Syö *sinä* banaani!  
 eat-imp/2s you-nom banana-nom  
 'You eat the banana!'
- c. \*Sinä syö banaani!

Sentences like (37b) have been interpreted as evidence that the presence or absence of an overt subject is not an important diagnostic for predicting the distribution of nominative objects in Finnish (Timberlake 1975). Such sentences also pose difficulties for models of case assignment in which nominative case is uniquely assigned to a single argument (e.g. Maling 1993).

Imperatives, which occur in nearly all if not all languages, show various unusual properties. Sadock and Zwicky (1985:170-8) note that verbs in these constructions are typically morphologically reduced, tending to disallow tense and agreement affixes. Subject pronouns are usually omitted, and where present fail to trigger verbal agreement. The data from Finnish is consistent with these cross-linguistic tendencies.<sup>12</sup>

<sup>12</sup> Sadock and Zwicky (1985:171) note that an interesting fact about imperatives emerges from ergative languages. In ergative-absolutive languages, agents of transitive verbs are marked with ergative case, while patients of transitive verbs and subjects of intransitives appear in absolutive case. Within this system, one might predict that the subject of transitive imperative verbs would be interpreted as absolutive, i.e. as non-agentive, while subjects of intransitive imperatives would be interpreted as er-

Another feature attributed to the subjects of imperatives is that of obligation. Mitchell (1991b) argues that, with subjects of necessity verbs and a related copular construction expressing obligation, subjects of imperatives are base-generated in a functional projection of the feature [+OBLIGATION] along with genitive subjects of necessities and deontic copular constructions. Schmerling (1982) takes issue with accounts wherein subjects of imperatives are interpreted as agential, and the putative correlation between imperatives and obligation imposed on the addressee, noting that speakers frequently use imperatives when the addressee has no (human) agentive control over the state of affairs whatsoever. Thus *Get well* might be said to someone ill, *Stay!* to a dog, or *Start, dammit!* to a car refusing to start. Furthermore, she discusses various types of exhortations such as *Save 10c* (where the imperative verb relates to a state which results from the act of purchasing), *Please don't rain*, and *Be big and strong*, and concludes that "The uttering of a (categorical) imperative is an attempt thereby to bring about a state of affairs in which the proposition expressed by the imperatives is true" (Schmerling 1982:212). Given the apparent ubiquity of imperative uses which are consistent with her statement, Schmerling's hypothesis seems intuitively valid. The data from various exhortatives to nonagentive addressees illustrate the link between 'agentivity' and the imperative mood to be a tenuous one.

Thus at least three facts suggest that imperative 'subjects' do not share important syntactic properties of typical transitive subjects. Firstly, as Schmerling has argued, the semantics of imperative 'subjects' are not necessarily agentive, and may be interpreted as having roles closer to THEME than AGENT. In this sense imperative verbs resemble unaccusatives semantically. Secondly, overt subject referents in Finnish imperatives must occur postverbally, unlike transitive subjects. Finally, imperative 'agreement' is signalled by a distinct morphological paradigm that fails to behave like full verbal

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gative, i.e. agentive. In other words, in an ergative language, the imperative of a verb such as 'go' should be interpreted as 'you go', and the imperative of a verb such as 'convince' should be interpreted as 'you be convinced'. However, in Sadock and Zwicky's sample of strongly ergative languages such as Eskimo and Dyirbal, the predicted interpretation does not surface. Instead, subjects of all imperatives in ergative languages are interpreted as agents. The authors attribute this to an inherent property of the semantics of imperatives: addressees must be agentive subjects with direct control over the state of affairs being evinced. Their hypothesis is supported by the fact that in most languages, verbs whose subjects are not agents tend not to occur in imperatives (e.g. \**Weigh 120 lbs!*)

agreement with respect to consonant gradation and productivity. These unusual features of imperative subjects collectively suggest that the first and second person imperative mood marker in Finnish, like the impersonal passive morpheme, renders the external argument syntactically inactive.

### **3.5 *Split-S Ergativity***

In the previous sections, the link between external arguments, AGR and accusative case was explored. Finnish pronouns were found to consistently violate Burzio's Generalization, while for full DPs, the assignment of accusative case turned out to correlate with a relation of coindexation between AGR and an external argument. In this section, the patterns of grammatical case assignment in Finnish are described in the context of cross-linguistic studies of ergativity. Finnish is argued to conform to a split-S ergative (Dixon 1979, 1995) or 'active' system, with the two grammatical functions  $S_A$  and  $S_O$  corresponding to external and internal arguments, respectively.

#### **3.5.1 Case Coding for Grammatical Function**

Across languages, the coding of the grammatical functions of arguments in a given clause is described as being organised into two main systems, Nominative/Accusative and Ergative/Absolutive. The following conventional notation appears in the typological literature in discussions of grammatical function:<sup>13</sup>

A= agents of transitive clauses

S= subjects of intransitive sentences

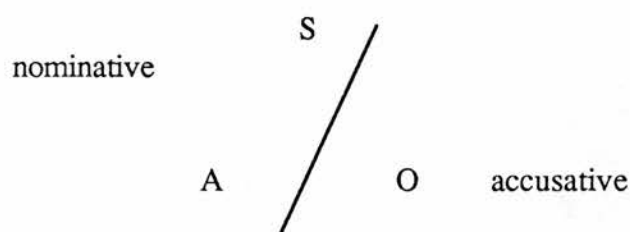
O= patients of transitive clauses

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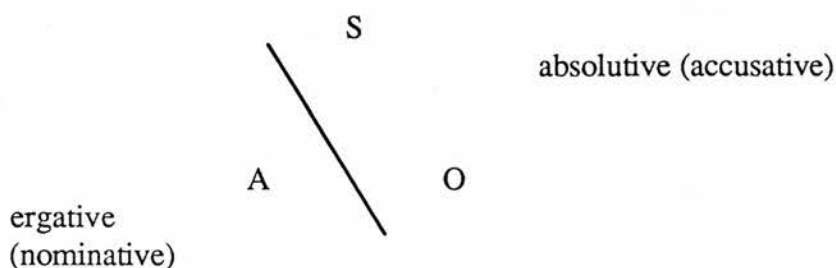
<sup>13</sup> These terms first appeared in Dixon (1968) and have been employed throughout Dixon's subsequent work and much of the typological literature.

Nominative systems fail to overtly mark a distinction between A and S, but mark O as distinct from the other two roles. In ergative systems the marking for S and O converges, but A is marked as distinct from the other two argument types. Languages may show syntactic or morphological ergativity. Cross-linguistic studies of ergativity and split-ergativity tend to equate nominative case with ergative case and accusative with absolutive, following Dixon (1979).<sup>14</sup>

38) a. Nominative/accusative languages



b. Ergative languages



The distinction between the two systems becomes most apparent in intransitive (unaccusative/unergative) sentences. In a Nominative system, the single argument appears in nominative case, so subjects of unergatives in English and the internal argument in passives and unaccusatives pattern as subjects of transitive sentences. In a (morphologically) ergative system, the single argument in both unaccusatives and

<sup>14</sup> The justification for this is grounded in the functions of the various cases in transitive clauses, where ergative and nominative cases signal the role of agent/subject and accusative and absolutive cases signal object. However, the cases differ crucially in terms of morphological markedness: cross-linguistically nominative and absolutive cases tend to be unmarked and ergative and accusative cases tend to be marked. This does not pose a particular problem for the current analysis given that Finnish patterns largely as a nominative-accusative language with an ergative *subsystem*.



unergatives appears in accusative or absolutive case, i.e. marked for the same grammatical function as an object in a transitive sentence.

These two types of coding systems for grammatical function are sometimes argued (Marantz 1984, Chomsky 1993) to be the result of parametric variation across languages, resulting in either an Ergative or Nominative case-marking system in any given language. However, the Nominative/Ergative distinction, as is the case with many phenomena ascribed to parametrization, is rarely canonical, languages often incorporating both systems. Dixon (1995), for example, notes that no language is completely ergative. Instead, most languages show features of both case marking systems. These ergative 'splits' occur cross-linguistically in various syntactic contexts: for instance, in Hindi, Sumerian, and a number of Mayan languages ergativity is associated with perfective aspect (Dixon 1994:100), and in many Native American languages, splits are linked with person and number hierarchies (Jelinek 1993).

### **3.5.2 Accounts of Ergativity in Finnish**

Patterns of case assignment in Finnish have been described as ergative or ergative-like in previous work. The first analysis of Finnish involving ergativity describes the NOM DP / ACC pronoun alternation and is presented in Comrie (1975). In his analysis, animate pronouns in Finnish pattern as Nominative/Accusative, while full DPs show 'antiergativity' (as given in Comrie 1975:114-15, Figs 1-3):



39) (a) Case-assignment in a nominative language:

|         |   |                       |
|---------|---|-----------------------|
| S (nom) | V |                       |
| S (nom) | V | O (acc)               |
|         | V | O (acc) <sup>15</sup> |

(b) Case-assignment in an ergative language:

|         |   |         |
|---------|---|---------|
| S (abs) | V |         |
| S (erg) | V | O (abs) |
|         | V | O (abs) |

(c) Case-assignment in an 'anti-ergative' language:

|         |   |              |
|---------|---|--------------|
| S (abs) | V |              |
| S (abs) | V | O (anti-erg) |
|         | V | O (abs)      |

Finnish animate pronouns, he proposes, pattern as (39a), while full DPs pattern as (39c), with the *-n* affix marking "anti-ergative" case. This proposal is criticised in Dixon (1994:62) because it fails to differentiate between transitive and intransitive sentence types.

Moravcsik (1978) suggests that the partitive-accusative objective case alternation under negation is best described as ergative, because the domain of the case split includes objects and some intransitive subjects (in existential constructions with copular predicates) but not transitive subjects. Vilkuna (1989:156) adopts Moravcsik's analysis but uses the term 'absolutive' rather than 'ergative'.

Itkonen (1979) also characterises the Finnish accusative-partitive/nominative alternation as showing ergativity. He detects an ergative-type split between 'existential' and 'non-existential' sentences: subjects of existential sentences occur either in nominative or partitive case, while subjects of other sentence types occur in nominative case. Itkonen's examples of 'existential' predicates, including *tulla*, 'to come', *syntyä*, 'to be

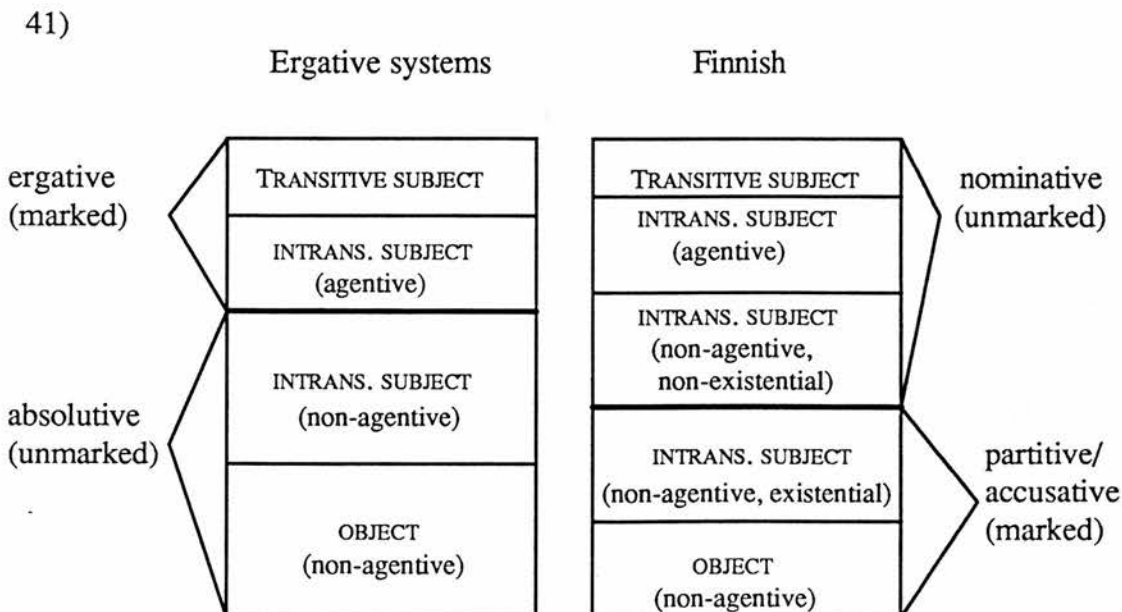
<sup>15</sup> Comrie's 'VO' sentence type refers to imperatives and impersonal constructions rather than passives and unaccusatives; thus in a Nominative/Accusative language like English the internal argument in such sentences appears in accusative case.

born', and *tarttua*, 'to get stuck' fall into the general semantic class of unaccusatives (Itkonen 1979:82):

- 40) a. Kissa-lle synty-i pentu/ pennu-t/ pentu-ja  
 cat-all born-past/3s kitten-nom/kitten-pl/nom/kitten-pl-part  
 'The cat had a kitten/kittens/some kittens' (lit. 'to the cat was born kitten(s))
- b. Verkko-on tul-i kala /kala-a  
 net-ill come-past/3s fish-nom/fish-part  
 A fish/some fish got caught in the net'

In section 2.1.2.1 the object-like properties of unaccusative 'subjects' are discussed, in particular the lack of verbal agreement and the fact that partitive case is assigned to these DPs under scope of negation.

The nominative:accusative/partitive case alternation, he proposes, patterns with the ergative:absolutive case distinction, and correlates with agentivity. However, because nominative in Finnish is unmarked and ergative case is typically marked, he describes the system as 'inverted ergative'. Furthermore, he links patterns of ergativity with agentivity in genitive-subject modal constructions and permission clauses and classifies Finnish as having an 'ideal' ergative subsystem, which distinguishes agentive from non-agentive subjects. Itkonen captures his generalisations in the following diagram (Itkonen 1979:87):



### 3.5.3 Split-S Systems

Itkonen's and Moravcsik's characterisation of the accusative-partitive case alternation in Finnish relates to a typological classification of certain languages as 'active', 'split intransitive' or 'split S', all notions associated with the unaccusative/unergative distinction proposed by Perlmutter (1978)<sup>16</sup>. In this type of system, intransitive verbs are subdivided into two semantic classes which may be based on the relative level of agency, animacy or volition of the argument; aspectual properties of the predicate; or 'lexical aspect' (Aktionsart) which distinguishes event vs. stative predicates. Case in these languages marks some intransitive 'subjects' as objects, and some as subjects:

#### 42) Split-S



Although split-S systems broadly divide intransitive verbs into the two types described by Perlmutter (1978), the patterns of case marking they employ are *not* predicted by the Unaccusative Hypothesis, and by extension, Burzio's Generalization. Unaccusative predicates in these languages do not show effects related to raising to subject, but appear marked in objective case.

Languages which are argued to show this pattern include Lakhota, Icelandic, Italian, and Eastern Pomo, data from which is given below (Andrews 1986:147-8):

<sup>16</sup> There is a difference of opinion as to whether split-S systems are actually ergative. Mithun (1991) argues for a separate classification between what she terms 'active/agentive' case marking and ergative case marking, but Dixon (1994) does include split-S patterns among ergative systems. Dixon's terminology is adopted here.

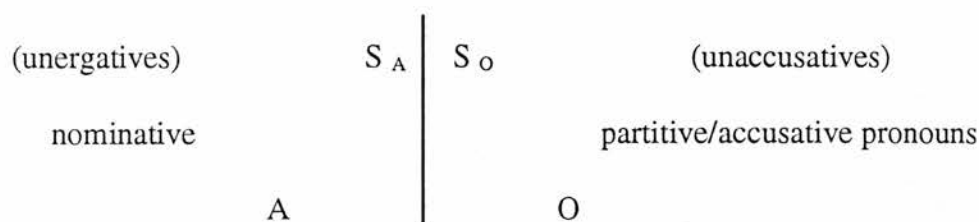
- 43) a. mí-p' káluhuya  
       he (A) went-home  
       'He went home'
- b. mí-pal xá-ba-kú-ma  
       he(O) in-the-water fell  
       'He fell into the water (accidentally)'
- c. mí-p' mí-pal šá-k'a  
       he(A) him(O) killed  
       'He killed him'

In Eastern Pomo, the volition of the unergative/unaccusative subject is associated with the case-marking of the argument. The  $S_O$  non-volitional noun in (b) receives the same case-marking as an object in a transitive clause, while the volitional  $S_A$  noun in (a) receives the same case-marking as the agent of a transitive verb.

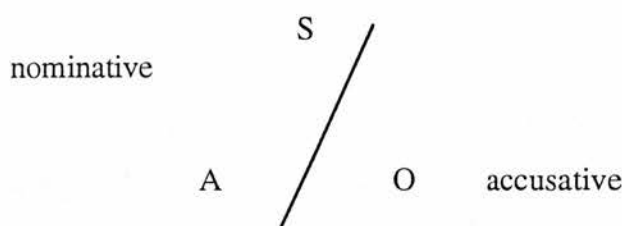
Earlier in this chapter, it was argued that 'zero-accusative' environments were those in which no external argument is licensed, or in which the external argument has been rendered syntactically inactive by inflectional morphology (impersonal passives and imperatives). Although certain unaccusative sentence types disallow animate pronouns postverbally, the fact that partitive DPs may occur in the same position suggests that these they are nonetheless unaccusative predicates. To account for the Finnish data, a split-S analysis of case is adopted.

Case in Finnish is significantly less straightforward than that of a language like Eastern Pomo because there are two distinct objective cases available, the choice of which is conditioned by semantic factors. A multiple split is in fact evident: the distribution of the partitive versus the other two core grammatical cases shows a split-S type pattern conditioned by aspect. But accusative, rather than partitive, objective case marking produces another split conditioned by animacy, between [+HUMAN] pronouns and all other DPs.

Firstly, Itkonen's (1979) analyses is adopted to characterise the split between nominative case and the two objective cases, but the distribution of accusative case he describes only actually applies to [+HUMAN] pronouns:

44) Split-S in Finnish (Itkonen 1979)

The split conditioned by animacy produces a different case-marking schema for full DPs, which pattern as a strongly Nominative/Accusative language:

45) Case marking in full DPs:

Case marking of full DP arguments is actually predicted by Burzio's Generalization, with the exception of imperatives, which are discussed in a later section. However, Laka (1993:169) observes that Burzio's Generalization accounts for case patterns in Nominative/Accusative languages, but it cannot predict case marking in ergative languages, where the single argument in an intransitive sentence typically may fail to receive an external theta role and still be assigned accusative/absolutive case. As argued in this section, pronominal arguments in Finnish are assigned case within an ergative-type subsystem, so fall outside the generalisation.

### 3.6 Conclusion

In this chapter, dependencies between argument structure and case assignment were examined. Finnish full DPs, including 'zero-accusative' case marked elements, were found to conform to the predictions made by Burzio's Generalization. The generalisation establishes a link between the licensing of an external argument by a verb and its

ability to assign accusative case. However, it fails to account for zero-accusative objects in imperative constructions, and as noted by Vainikka (1989c), animate pronouns in Finnish appear to consistently violate the generalisation. The properties of subject agreement were then discussed; it was proposed that AGR always projects, but may or may not be coindexed with an external argument. In the case where no external argument is licensed, the projection is licensed phonologically but not syntactically. The structural distinction between internal and external arguments and case was then found to correspond to typological definitions of ergative splits. The violation of Burzio's Generalization is accounted for as the result of split-S ergativity in animate pronouns. In the next chapter, a syntactic account for split-ergativity is proposed in which the case-assigning properties of the functional head Tense/Mood and the argument structure of subjectless predicates results in the internal argument being assigned two case features simultaneously.

## 4. Mechanisms of Case Assignment

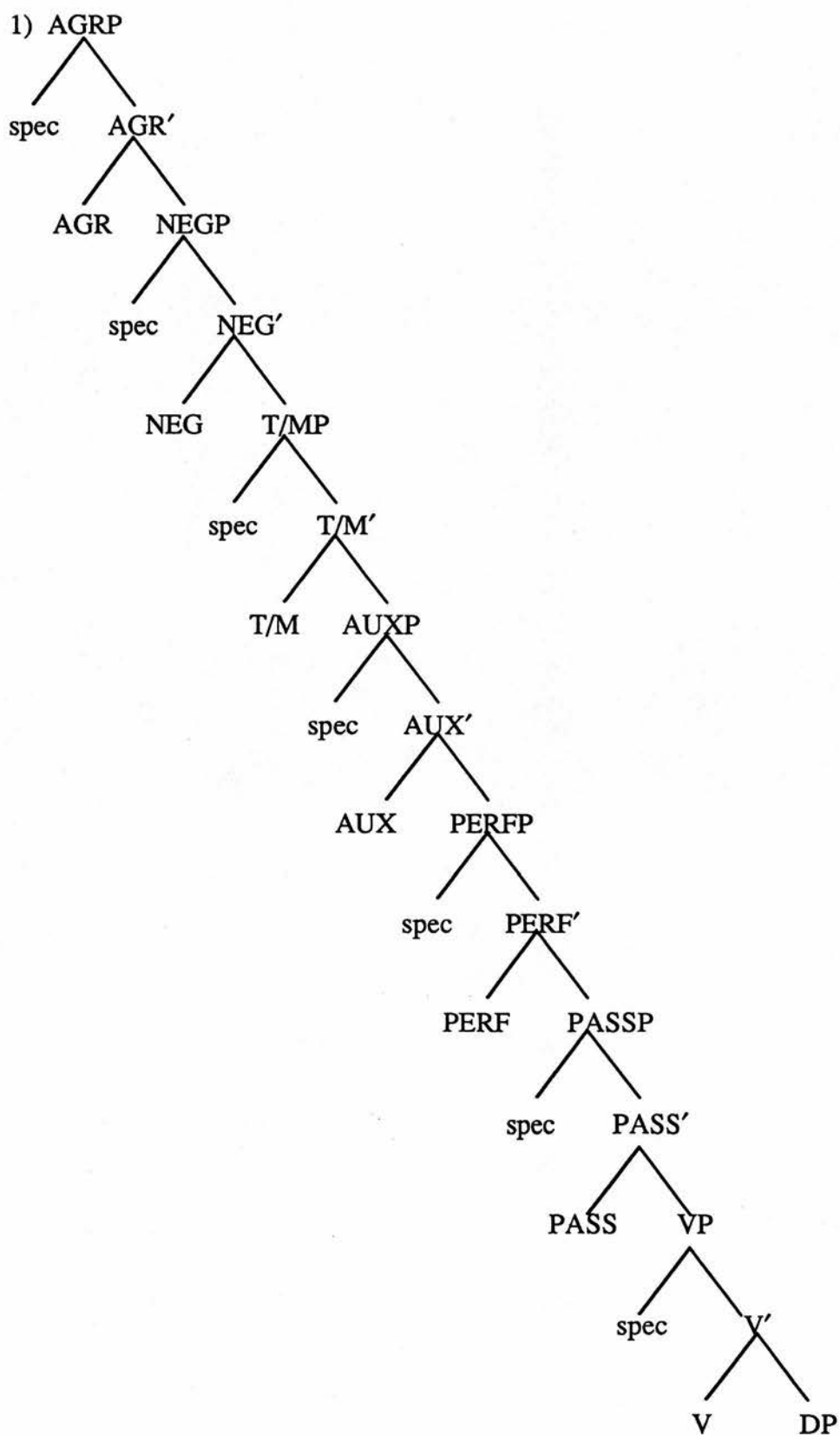
In the previous chapter evidence was presented that Finnish shows Split-S ergativity. The predictions made by Burzio's Generalization were also examined for Finnish, and the distribution of 'zero-accusative' case among full DP objects was found to correlate with the verb's failure to license an external theta-role and with the absence of agreement morphology. In this chapter, a structural account of patterns of grammatical case in Finnish is outlined in which syntactic properties encoded as lexical features within a single functional head (Tense/Mood) produce a split in the case marking of single-argument clauses and some complex predicates. Before an account of Split-S ergativity is attempted, the structure of the finite clause is reviewed. A review of Case Theory follows in section 4.2, and mechanisms of case assignment are discussed. Tense/Mood is argued to assign Case both under government and spec-head agreement. V is proposed as the objective case-assigner under government, following evidence that objective case cannot be assigned under spec-head agreement in Finnish. The partitive-accusative case alternation is examined, and accusative case linked with a particular type of aspectual theta-role assigned by V. Finally, case in subjectless predicates is discussed. Split-ergativity is shown to result when two structural cases get assigned to an internal argument.

### 4.1 *Finite clause structure*

Before an analysis is presented detailing the mechanisms of case assignment which produce the patterns described in the last three chapters, the structure of finite clauses is reviewed.

#### 4.1.1 *Heads and structure*

In Chapter 1 the following structure was posited as a maximal (possible) expansion of IP in Finnish (e.g. a negative pluperfect passive):





In assuming the independent projection of functional heads in the syntax, a further principle is assumed: The PF Licensing Principle (Cann and Tait (1989), Tait and Cann (1990), Tait (1991), and Cann (1993)) formulates a constraint on representation and acquisition which restricts the set of possible projections in a given language to those whose heads contain or are coindexed with phonetically realised material.<sup>1</sup>

2) *PF Licensing Principle* (as given in Cann and Tait 1989:9)

$\alpha$  is PF-licensed iff.

- a. the head of  $\alpha$  contains phonologically realised material or
- b. the head of  $\alpha$  is bound by a PF-licensed position or
- c.  $\alpha$  binds a PF-licensed trace

In the framework detailed by Cann and Tait, all  $X^0$  elements have lexical entries in which syntactic and semantic features and properties may be encoded. Syntactic structure is determined by properties specified in the lexical entries of functional heads, which then combine with other functional heads and contentive heads according to the principles of X-bar Theory to yield derivations. Principles of UG in this model are thus reduced to lexically-specified selectional criteria and X-bar Theory itself. Because a language learner can only acquire those elements which are overt in the phonology, the contents of the functional (f-) lexicon in a given language are necessarily language-specific. No cross-linguistic template can be posited containing functional heads which are morphologically overt in some languages but not in others. Language variation emerges as the result of the lexical properties of the particular functional elements available as input to an acquirer of a language.<sup>2</sup>

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<sup>1</sup> Holmberg et al (1993) assume a similar principle in their analysis of the Finnish IP, but do not formulate it as a linguistic universal.

<sup>2</sup> One of the main motivations for the PFLP is to limit the number of functional projections posited which are headed by empty elements. Another motive behind the PFLP is to impose a theoretical constraint on the acquisition of elements, particularly functional, by limiting the available input to the learner to those elements which are phonetically overt. However, the principle as it is formulated above and in subsequent work by Cann and Tait still allows for the acquisition of functional heads which are only ever licensed by traces of moved elements, and thus cannot rule out extended strings of functional heads which do not contain morphological material at D-structure. However, a more powerful version of the constraint, incorporating (a) and (b) but not (c), would rule out the acquisition of *all* phonetically null functional heads, including those in zero-marked paradigm slots. One way around this problem might be to accept the notion of paradigms as a linguistic reality; phonetically unrealised elements may then be licensed by a paradigmatic alternation and not constitute a violation

Given the evidence presented in Chapter 1 for the maximal expansion of IP for a finite clause, the question remains as to whether all possible functional heads project in every clause, the 'maximal IP'<sup>3</sup> hypothesis assumed in Mitchell (1991) following Chomsky (1986a), or whether the underlying structure of a given representation must be licensed by phonetically realised morphological material, the 'minimal IP' hypothesis suggested by Holmberg et al (1993). Maximal IP assumes that there is a language-specific (or universal) template for all possible sentences, the individual nodes of which may or may not be licensed by phonetically realised material; however, all nodes of the entire extended IP are available as landing sites for movement, and perhaps as case assigners, in all derivations. In such a model, all possible functional heads which comprise IP are always part of the extended projection of V, the structure of which can be accounted for in terms of c-selection of functional categories for their complements. Furthermore, functional heads are assumed to have syntactic and semantic feature values which are relevant in all sentences. For example, the functional head Negation actually encodes a binary value for assertion or negation; the projection of the Passive morpheme encodes a binary value for active or passive voice; and Perfect (or Aspect or Tense) encodes a binary value for +/- PERFECT. The only functional head posited which does not encode such a syntactic or semantic feature is AUX, which projects only to serve as a host for T/M affixes. Not surprisingly, Mitchell does not posit a projection for auxiliary verbs, presumably for this very reason. The main advantage of this approach is that the structure-building mechanism for deriving trees can be reduced more or less entirely to that of categorial selection, either 'top-down' or 'bottom up': AGR, the head of a clause, c-selects a projection of AST (Assertion) as a complement, which in turn c-selects T/M, and so on until a finite clause is generated which satisfies all of the relevant selectional requirements. The main drawback to this approach is that many structures generated would contain functional projections devoid of semantic and phonetic

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of the principle. Alternately, the PFLP might be seen as a requirement for labelling (Cann pers comm), such that elements lacking a phonetic signature require a strong syntactic or semantic label to trigger acquisition.

<sup>3</sup> The terms 'maximal IP' and 'minimal IP' are used in the current discussion for convenience, but are not terms used by either Mitchell or Holmberg et al.

content, the specifier positions of all of which would theoretically be available as landing sites for unconstrained movement of elements within the structure.

The second hypothesis (Minimal IP), that functional heads only project when overt in the morphology, encounters problems involving selection. If the principles of X-bar theory are assumed to underlie the generation of trees, then the head-complement relation of functional heads to each other in a binary branching tree must be one of selection, be it lexical, categorial or otherwise. The assumption made by Holmberg et al, that elements only project when they are overt in the morphology, entails that functional heads can select complements of varying category, e.g. that a projection of Tense/Mood can c-select AUX, PERF, passive Voice *or* V as complements, depending on what morphemes are overt in the morphology in a given sentence. The strength of this model in contrast to that assumed by Mitchell is that representations are minimal in scale, with projections such as Negation licensed by both sentential semantics and phonology. If heads can select complements of varying category, however, then the ordering of the morphemes in IP becomes inherently unpredictable. In such a model of structure building, the correct linear order of elements in the template might be ensured by appealing to a mechanism of 'transitive selection' (Cann pers comm), such that if X selects Y and Y selects Z, then X selects Z. However, this also proves too unconstrained, as it fails to rule out strings such as V+PASS+PERF and V+PERF+T/M+AGR, exemplified as (3a and b) below:

- 3) a. \*kirjoite-taan-nut  
       write-pass-perf
- b. \*ui-neet-isi-mme  
        swim-perf-cond-1p

In the derivations given above, the heads occur in the correct linear order, and do not violate any obvious phonological rules. If the minimal IP hypothesis with transitive selection is adopted, these structures might be ruled out on other grounds: PASS and

PERF might be specified in the f-lexicon as word-final suffixes so any further affixation to these morphemes produces a morphologically unfelicitious string.<sup>4</sup>

The relative universality of functional projections cross-linguistically or within a given language is an issue still under debate within syntactic frameworks assuming the projection of functional heads.<sup>5</sup> Problems involving selection that emerge if heads such as Negation are assumed not to project in all cases (see e.g. Zanuttini 1991:74 fn. 13 for a discussion) also remain unresolved. In the framework assumed in the current work, syntactic structure is built according to selectional properties of  $X^0$  elements encoded in the lexicon, so the issue of selection arising from the adoption of Minimal IP is a crucial one; concurrently, the PF-Licensing Principle requires the projection of functional elements to be licensed at PF, posing problems for the Maximal IP hypothesis.

Part of the solution to this problem concerns the heterogeneous nature of the various functional categories. In the previous chapter, the syntax and semantics of AGR were discussed, and it was argued that AGR projects in all clauses but may or may not have syntactic or semantic content. In cases where AGR is devoid of  $\phi$ -features, it is licensed by the phonology of verbs in Finnish; these may not occur as bare stems, so a default agreement morph is required to prevent a phonological violation. On the other hand, a putative projection of Negation in affirmative finite clauses would be devoid of phonological, semantic *and* syntactic content. When NEG does project in Finnish, it functions as a semantic operator and also as a semi-verbal stem, hosting agreement affixes. Auxiliaries (AUX) serve a similar morphological function as stem hosts for tense and aspect markers, but are completely devoid of semantic content. PERF must be licensed by perfective or progressive participles, and is therefore associated with verbal

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<sup>4</sup> To be more precise, PERF and PASS can both derive participles that may take case inflection if occurring in an A-position. However, the process of deriving lexicalised participles is assumed to take place in the lexicon rather than at D-structure, and results in a change of category from V to N.

<sup>5</sup> For example, Iatridou (1990) gives strong evidence against Pollock's (1989) positing of AGR as a universally-occurring projection in French and English. Iatridou argues against AGRP not on morphological/acquisition grounds, but on syntactic grounds, demonstrating that all the syntactic effects accounted for by AGRP in Pollock can be equally well-explained in other ways.

semantics. PASS is licensed by the passive morpheme, which alters argument structure and therefore has wide-ranging syntactic and semantic effects.

Given the observation that projections of functional heads are associated with phonological, semantic or syntactic content, the Minimal IP hypothesis is adopted in the current work, i.e. elements not licensed are also assumed to be missing from syntactic representations. IP in Finnish is assumed to be generated in the following way: AGRP dominates the structure, and may c-select either NEG or T/M as a complement. NEG selects T/M as a complement. T/M is a transitive selector, and may c-select either AUX, PERF, or PASS, which in turn also c-select complements based on transitive selection. However, the resulting structure generated must be sensitive to morpheme-specific properties of affixation, namely, whether a given element is a stem (NEG, AUX, and V) or an affix, and which elements must occur word-finally (PERF, PASS, AGR). At PF, the PFLP operates to rule out derivations containing heads unlicensed by phonological material. This hypothesis predicts that given these constraints, unfelicitous structures are ruled out while still retaining the minimal number of elements licensed in a derivation.

#### 4.1.2 Base generation of arguments

The Projection Principle requires that all arguments theta-marked by V must be present at every level of representation. This entails that all arguments, internal and external, must be base-generated at D-structure in a position where they can be theta-marked. Leaving aside the issue of the exact structure of ditransitives, there is a general consensus that internal arguments of transitive verbs are base-generated inside V' as complements of V, where they are theta-marked directly by V and from where they may move to satisfy the Case Filter if necessary.

The base-generation of external arguments, on the other hand, is a more contentious issue. Chomsky (1981:52) proposes that subjects are base-generated in spec(IP), within the maximal projection of the sentential head. INFL in this analysis may be



marked for +/- Tense, and governs the subject only if it contains AGR. Thus subjects of infinitives are base-generated in INFL[-TENSE], and in languages where AGR is present in infinitives (e.g. Portuguese) may agree with the verb. Following Pollock (1989) and subsequent work in which the inflectional features in INFL are analysed as heading separate projections, the question of where subjects are base-generated becomes more complex. If subjects are assumed to originate in INFL, then TNS, AGR, NEG, PERF and various other proposed functional heads become possible sites for the base-generation of subjects. Mitchell (1991b), for example, suggests that subjects in Finnish may be base-generated in the specifier positions of either of two functional categories located between CP and VP, Predication and Obligation. Ramchand (1995) allows subjects in Scottish Gaelic to be base-generated in either spec(IP) or spec(PERFP), depending on whether the predicate is stage-level or individual-level.<sup>6</sup>

An alternate view has been proposed by, among others, Koopman and Sportiche (1991). In this analysis, all subjects are base-generated and theta-marked in spec(VP),<sup>7</sup> that is, internal to VP. Positing VP as the site of base-generation of subjects captures the locality of the relation signalled by theta-role assignment between verbs and their external arguments more elegantly than does the spec(IP) subject hypothesis. The analysis also entails that INFL is a 'raising category' along with modals and raising verbs, i.e. that it induces raising of subjects to IP. Vainikka (1989c) adopts this proposal for Finnish, arguing that subjects receive structural default genitive case in spec(VP) when they are base-generated, then raise to spec(IP) to become coindexed with agreement features (if any). The subject leaves behind its genitive case feature and appears 'caseless' (i.e. in nominative case) in spec(IP). The 'unrealised' genitive case feature in spec(VP) percolates to within VP and case-marks the object NP. Chomsky (1993) also assumes that subjects originate in spec(VP), raising to spec(AGR<sub>S</sub>) to check  $\phi$ -features and nominative case features.

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<sup>6</sup> Ramchand does assume, however, that ASP projects within VP, so subjects originating in this node are technically VP-internal.

<sup>7</sup> Koopman and Sportiche distinguish between VP, the phrasal projection of V, and V<sup>max</sup>, the maximal projection of V. In their view, subjects are base-generated external to VP and external to putative AGR<sub>O</sub>, but within the maximal projection of V and still below INFL; however, the authors disagree as to the exact nature of this site. In the current discussion this position is referred to as spec(VP).

In the syntactic framework adopted here, however, feature-checking mechanisms are not assumed to motivate movement of arguments to specifier positions as in Chomsky (1993). This creates problems for the VP-internal subject hypothesis: why exactly do subjects raise to spec(IP)? One motivation for movement may be case-related: to be assigned nominative case by tense and/or AGR in INFL, external arguments must raise from spec(VP) to surface subject position in spec(IP). This model encounters problems when faced with postverbal nominative objects, and in languages where subjects may receive nominative case in situ in VP. These cases are discussed in section 4.3.2.

Vainikka (1989c) offers another explanation for raising of subjects out of spec(VP): subjects raise when agreement features in IP are 'strong', then become coindexed (presumably under spec-head agreement). However, this hypothesis brings up further problems involving discontinuous dependencies. If subject and agreement are not coindexed until after movement, how does the strength of features external to VP induce movement from inside VP? In other words, how is the subject sensitive to the strength of features elsewhere in the structure? If subjects are base-generated in IP (T/MP or AGRP), however, they are already coindexed with the relevant inflectional features at D-structure<sup>8</sup> and need not be sensitive to feature values elsewhere in the structure. On these grounds, external arguments are assumed to be base-generated in spec(AGRP) in Finnish, rather than VP-internally.

## 4.2 *Mechanisms of Case Assignment*

Case Theory as formulated in Chomsky (1981:170-83), has several functions as a theoretical construct. Firstly, it accounts for the distribution of morphological case in a variety of Indo-European languages: for example, by associating nominative (i.e. un-

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<sup>8</sup> Following Cann (1993) heads and specifiers are assumed to be necessarily coindexed and unify at D-structure. This coindexation relation may apply to external arguments and specifiers, and ensures that feature-sharing and categorial matching are maximally local. The mechanism for this unification becomes particularly relevant in Chapter 5, when the properties of nominal (Px) vs. verbal AGR are discussed in detail.

marked) case with a structural, abstract nominative Case assigned by INFL, the distribution of nominative case morphology in finite clauses can be captured. Secondly, positing a Case Filter as a condition that all phonetically overt NPs receive Case provides a motivation for various syntactic phenomena, including movement between D-structure and S-structure in passive constructions in English and other Indo-European languages. Finally, the assignment of abstract case functions as a visibility condition for theta-role assignment (Chomsky 1981); V cannot theta-mark<sup>9</sup> unless a given argument has been made 'visible' via the assignment of abstract Case. Case Theory, then, attempts to embrace a variety of disparate phenomena, including word order, case morphology, and the interpretation of arguments.

All three of these explanatory tasks, however, are challenged by cross-linguistic data. Languages such as Chinese employ no overt case (or agreement) morphology whatsoever and have relatively free word order, yet speakers manage to interpret the thematic roles of arguments. Passive morphology in many languages (e.g. Spanish) does not induce movement, and/or the internal argument may appear in accusative or objective case (Jaeggli 1986). Finally, postulating structural abstract case as a condition required for theta-role assignment must necessarily dissociate specific theta-roles from specific abstract cases, as the well-known English data from ECM constructions and passives illustrates. However, this last provision of the theory as it is formulated in earlier work within the Principles and Parameters framework requires refinement, since certain morphological cases do appear to correlate directly with specific theta-roles.

One question that arises from earlier formulations of Case Theory is whether Case is assigned to arguments, or to structural positions. The first hypothesis entails a strong correlation between thematic role and case morphology, and associates abstract Case assignment with deep levels of representation closely linked with verbal semantics. The latter hypothesis removes such a correlation between meaning and form, or form and function, and elevates Case licensing to a more abstract level. Chomsky (1986a) differ-

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<sup>9</sup> Chomsky (1981) discusses this visibility condition in terms of theta-role assignment; however, since theta-role assignment is taken to occur at D-structure and case assignment at S-structure, the condition presumably assures that theta-roles can be *interpreted* at LF rather than assigned after D-structure.



entiate between these two types of Case, and posits diagnostic features for both: inherent (lexical) case is linked with a particular theta-role and is assigned to arguments at D-structure (i.e. to NP-trace at S-structure if movement has occurred) under lexical government; structural case is assigned at S-structure (i.e. not to NP-trace at S-structure) and is not associated with a particular theta-role. The formulation of the Minimalist Program (Chomsky 1993) has also involved some radical refinements to Case Theory. These are addressed in later sections.

The least well-defined notions integral to Case Theory seem to involve a) a precise definition of 'case assignment under government' and b) the level of representation at which Case is assigned. The theoretical inconsistencies resulting from (a) have been noted extensively in the literature: if head-government entails a governing relation between head and complement *and* head and specifier, why does the head V assign case to its complement but the head INFL only to its specifier? Koopman and Sportiche (1991) note that in some languages (e.g. Arabic and Welsh) subjects base-generated internal to VP may remain in situ while V raises over them to INFL, but still receive nominative case. To account for this cross-linguistic variation, they redefine government for the purposes of case assignment as *i-command*, restricting government by heads to complements and specifiers of daughters, but not their own specifiers:

4) I-Command (as given in Koopman and Sportiche 1991:229):

A i-commands (immediate command) B if the first constituent (distinct from A) containing A contains B.

Assuming that no complements are barriers to government, they argue that INFL may assign nominative under i-command to subjects in spec(VP) or to subjects in specifier positions of ASPP, the projection proposed to intervene between IP and VP. However, they note that nominative case can also be assigned to spec(IP) through spec-head agreement, which triggers verbal agreement morphology with the subject. Languages in their model are parametrized as to whether INFL assigns case under government, under spec-head agreement, or via both. If INFL in a given language can as-

sign only under government, subjects may remain in situ with no resulting violation of the Case Filter; if INFL assigns via spec-head agreement only, the external argument must raise out of VP to get case. By proposing this parameter Koopman and Sportiche account for both SVO and VSO word orders from an underlying SVO order. This approach retains a distinction between two mechanisms of case assignment (spec-head agreement and head-government) for two abstract Cases, though it assumes that languages may vary as to which mechanisms are employed.

Formulations of Case Theory also tend to be ambiguous with respect to the level of representation at which case is assigned. Given that the Case Filter is held to operate at S-structure, if V-to-I raising (Chomsky 1986a) is assumed rather than the lowering of INFL to V, how can V assign case to its complement if V has moved out of VP by S-structure? This difficulty is addressed by Koopman (1987<sup>10</sup>), who proposes a parameter +/- Case Chain (CC), which in some languages allows the tail of a chain (i.e. a coindexed trace at S-structure) to license case, while others (e.g. Bambara) require that case can only be assigned by the head of a chain. Chomsky (1991) suggests that the +/- CC parameter can be reduced to lexical properties of heads; English and French allow all heads ( $X^0$ s) to enter into a case relation, whereas other languages allow only lexical  $X^0$ s to license case. In any event, if V raising to INFL is assumed, some mechanism for case assignment must be operational if the complement of V is to be assigned case at S-structure.

Another proposed property of moved heads becomes relevant to this discussion. Baker's (1988) Government Transparency Corollary states that heads inherit the governing domain of the incorporated element:

5) Government Transparency Corollary (Baker 1988):

A lexical category which has an item incorporated into it governs everything which the incorporated item governed in its original structural position.

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<sup>10</sup> Cited by Tait (1991).

This principle also provides a mechanism for V to assign accusative case after moving out of VP, since it ensures that the verbal complex formed when V moves to INFL still governs the verbal complement. However, if INFL incorporates V, it then governs the complement formerly governed by V. If Koopman and Sportiche's (1991) suggestion that INFL can assign case under government is adopted, then INFL can also case-mark the verbal complement with nominative case at S-structure. Since both V and INFL govern the complement of V, the adoption of both Baker's corollary and Koopman and Sportiche's case-assigning parameter entails that the object may be assigned both nominative and accusative case features simultaneously at S-structure, a situation clearly not consistent with the explanatory goals of Case Theory. However, since it will emerge that both of the principles mentioned appear to hold for Finnish, the case-assigning properties of both INFL and V need to be more explicitly defined before an analysis can be attempted.

### **4.3 *Nominative case assignment***

#### **4.3.1 Is nominative case a case?**

As discussed in Chapter 2, some previous analyses of the distribution of case in Finnish (Milsark 1985, Taraldsen 1986, and Vainikka 1989c and 1993) have suggested that nominative case is 'not a case', signalling instead the absence of abstract case features. The evidence from Finnish would support this hypothesis much more strongly if zero-accusative objects alternated with nominative animate pronouns. However, the fact that pronouns clearly appear in accusative case in the same environments is problematic: by what mechanism can accusative case *not* be assigned full DPs but still be assigned to pronouns in exactly the same structural position? Taraldsen (1986) accounts for data from Finnish unaccusatives as well as other zero-accusative sentence types and argues that nominative case is not a case, but is associated with the theta-marking of an external theta-role. He also specifically mentions that Finnish need not be analysed as showing ergativity. However, his analysis omits any discussion of accusative pronouns, and is therefore empirically inadequate.

Vainikka (1989c) also argues that nominative is not a case. In her model, accusative case is assigned as a result of the feature [+COMPLETED] being present on the verb, while partitive case is assigned as a structural default (i.e. if the feature [+COMPLETED] is lacking). In a simple transitive sentence, a noun complement which receives abstract accusative case appears with *-t* if an animate pronoun because pronouns are paradigmatically specified for the *-t* accusative. Full DPs accusatives in her model receive the affix *-n* via a feature percolation process from spec(VP), from where the external argument raises to INFL if coindexed with AGR. Subjects are base-generated in spec(VP) and receive the genitive case feature by structural default; when they raise to INFL, they 'strand' their genitive case feature in spec(VP), and appear in spec(IP) without case, i.e. in nominative case. In zero-accusative environments, no external argument is coindexed with AGR in INFL, so the DP appears without any case feature, i.e. in nominative case. In Vainikka's model, then, nominative case realises abstract accusative case features, but is not actually assigned to subjects; in both subjects and objects, nominative case surfaces when no genitive case affix is available. Vainikka's analysis therefore equates structural case for subjects (genitive) with accusative case for objects as the same case feature.

#### 4.3.2 Mechanisms of nominative case assignment

Given the distribution of nominative case described in Chapter 2, and assuming that nominative case *is* a case, how can the structural mechanism(s) for nominative case assignment be defined? Discussions of nominative case assignment in the literature tend to focus on the Tense/Agreement features in INFL as the locus for nominative case assignment, but immediately encounter problems when faced with data such as unaccusatives in Italian and postverbal subjects in Arabic, where it appears that nominative case may be assigned to elements lower in the structure than canonical subject position. To account for the Finnish data, it is necessary to posit more than one possible structural position in which nominative case can be assigned.

Analyses which assume the existence of the Case Filter usually posit the locus of nominative case assignment to be in INFL. Chomsky (1981) argues that subjects are assigned nominative case in *spec*(IP) at S-structure if INFL is [+AGR]. INFL in this model may be specified for [+/- TENSE], so that subjects of infinitives may be base-generated under INFL and still show subject agreement, as is the case in Portuguese. Nominative case assignment in Chomsky (1986a) is assigned under *spec*-head agreement by the functional head INFL to the argument in its specifier position. In Pollock (1989) and in subsequent work, INFL is further articulated into feature-specific units of verbal inflection, projecting as the functional heads Tense, Agreement, Negation, etc. Despite the fact that INFL in this analysis is decomposed into several functional heads, the general assumption remains that both Tense and Agreement are involved in the assignment of nominative case;<sup>11</sup> for example, Ouhalla (1991) specifies a parameter that associates AGR with case-marking properties. Chomsky (1993) associates nominative case (in Nominative/Accusative languages) with the movement of Tense into the head AGR; subjects check off case and agreement features in *spec*(AGR<sub>S</sub>), where they are assigned nominative case. In Ergative/Absolutive languages, where subjects of intransitives appear in absolutive (=accusative) case, the lower projection of AGR is assumed to be active and case-assigning, resulting in external arguments with absolutive case marking.

Two distinct ideas emerge from these proposals: first, that nominative case is assigned to the left by INFL, and is therefore associated with a structural subject position; and second, that nominative case is linked with agreement features (or a functional head AGR). One interesting test of these hypotheses is data from Italian inverted clauses and unaccusatives ('ergatives') (data from Burzio 1986:96):

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<sup>11</sup> Most such analyses require tense or finiteness features to be present in addition to subject agreement for nominative case to be assigned, because of ample cross-linguistic data from infinitives and nominalisations where nominal subject agreement is present but no nominative case is assigned.

- 6) a. Arriva Giovanni.  
       arrives Giovanni  
       ‘Giovanni arrives’
- b. Telephona Giovanni.  
       telephones Giovanni  
       ‘Giovanni telephones’

In each of these sentences, nominative case is assigned to a DP post-verbally; in (6a), the verb is unaccusative, and in (6b), the sentence is inverted. Based on what is effectively a rule for lowering INFL to V, whereby agreement affixes attach to a verbal stem in VP forcing the insertion of subject PRO, Chomsky (1981:256-265) develops a rule for nominative case assignment to account for such data, suggesting that nominative is assigned under the following rule:

- 7) At S-structure, assign nominative case to NP co-superscripted with and governed by AGR.

He then suggests that PRO is coindexed with AGR and the post-verbal NP. By the case-assignment rule posited above, the internal argument of the unaccusative verb in (6a) and the inverted subject in (6b) get assigned nominative case. Since this rule depends on AGR lowering to V rather than V raising to AGR, as is being assumed in the current analysis, there is no mechanism by which the internal argument of an accusative might be coindexed with AGR.

Burzio (1986:96-98) accounts for (6b) above as an instance of lowering, where the subject NP has left a coindexed trace in spec(IP) which is then assigned nominative case. Explaining nominative case assignment in (6a) is more problematic. Adopting the Unaccusative Hypothesis (Perlmutter 1978), he assumes that *Giovanni* is base-generated as an internal argument but is coindexed with a nonovert, non-argument expletive pronoun in subject position, corresponding to an overt pronominal expletive in English raising constructions as in (8) below:

- 8) It was expected [that Julie would sing.]



Burzio allows for the nonovert expletive element by assuming that in pro-drop languages INFL can have the status of a pronoun. This analysis differs slightly from Chomsky's, in that no PRO-insertion rule is required. Burzio's proposed coindexation relation provides a mechanism for nominative case assignment *in situ* while retaining the leftward directionality of case assignment by INFL. The main problem with this analysis concerns the status of AGR in unaccusatives. Featureless ('weak') AGR lacks semantic content and coindexation with an external argument. Since pronouns are by definition the lexical realisation of bundles of  $\phi$ -features, it seems unlikely that AGR could have the syntactic status of a pronoun in such constructions. Analyses of this type assume a mechanism of 'case transmission' whereby a pleonastic element coindexed with a lexical noun can transmit case because the two elements form a syntactic chain, to which case is assigned. Lasnik (1992) argues against the possibility of case transmission in any language, proposing instead that all case is assigned directly under government; from this follows the hypothesis that, contrary to Burzio (1986), unaccusatives do assign Case.

An alternate mechanism for nominative case assignment to arguments postverbally arises out of the VP-internal Subject Hypothesis. Koopman and Sportiche (1991) examine data from English and French (SVO), Irish and Welsh (VSO), and Arabic (SVO and VSO). In explaining why subjects may have to raise out of VP once subjects have been base-generated there, they argue that languages are parametrized as to whether nominative case is assigned by INFL under spec-head agreement, in which case subjects must raise to INFL in order to avoid a violation of the Case Filter, by head-government, in which case subjects must remain in spec(VP) to get nominative case, or by both mechanisms, such as in Arabic. This model accounts for SVO and VSO word orders, respectively, as well as the fact that certain languages appear to allow the option for movement of the subject out of VP. Interestingly, the data from Arabic suggests an association between derived subjects in spec(IP) and subject agreement: nominative case-marked subjects *in situ* in spec(VP) do not appear to trigger agreement morphology on the verb. However, the model fails to capture inversion of subject and verb in Italian unaccusatives, where *internal* arguments get assigned nominative case postverbally.

Koopman and Sportiche's proposal that INFL in some languages may assign case either under spec-head agreement or under government is adopted in the current analysis, but must be modified to account for nominative case assignment to internal arguments. In addition, a disassociation of nominative case and subject agreement is required to allow an account of pre- and postverbal case assignment in sentences such as (9) and (10) below:

- 9) Ovi           ava-ttiin  
     door-nom open-pass/past  
     'The door was opened/They opened the door'
- 10) Minu-a   pelotta-a   ava-ta    ovi  
      me-part  fear-3s   open-inf  door-nom  
      'I'm afraid to open the door'

In (9) above, the impersonal passive verb is unmarked for subject agreement. In (10), the finite causative verb is marked for third person singular default agreement, and the infinitive is also unmarked for agreement. However, nominative case is still assigned to an argument in the clause.

Given that AGR is assumed to project even when devoid of pronominal features, however, this does not rule out the possibility that AGR still assigns nominative case in such sentences. Data from nominalisations provides more evidence that agreement and nominative case are not necessarily linked. Like many other languages, Finnish has a set of nominal agreement markers or Possessive Affixes (Pxes) which encode pronominal subject agreement features in non-finite verbs:

- 11) Lue-ttua-ni   kirjee-n   lähd-i-n    pois.  
      read-nom-Px1s letter-acc leave-past-1s out  
      'After reading the letter I went out'

Arguments have been made (Ouhalla 1991, Reime 1993) that possessive affixes such as Finnish Pxes function as syntactic AGR, and related proposals are made in Chapter 5 of the current work. However, in sentences with Px agreement, both nominative subjects and nominative objects are ungrammatical:

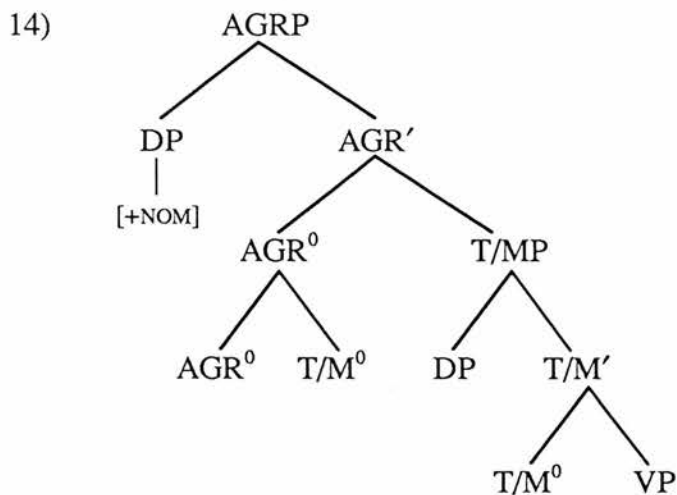


- 12) a. \* Minä lue-ttua-ni kirjee-n lähd-i-n pois.  
 I-nom read-nom-Px1s letter-acc leave-past-1s out  
 'After reading the letter I went out'
- b. \* Lue-ttua-ni kirje lähd-i-n pois.  
 read-nom-Px1s letter-nom leave-past-1s out  
 'After reading the letter I went out'

Data such as these indicate that in Finnish, finite tense is required in INFL for nominative case to be assigned. It is therefore proposed that the functional head responsible for nominative case assignment is Tense/Mood. The lexical entries for category Tense/Mood elements contain the relevant case-assigning feature as follows:

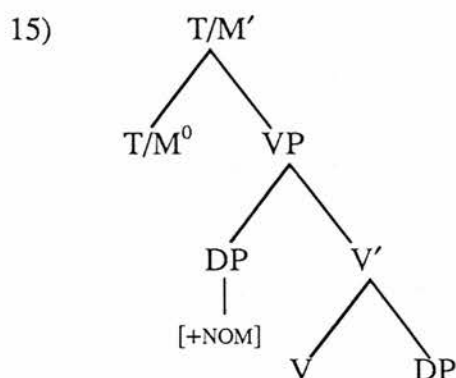
- 13)  $T/M^0$ : Assign nominative case under government.

Because the Tense/Mood element in Finnish undergoes head movement to AGR in non-negated sentences, nominative case can be assigned under spec-head agreement to a DP in spec(AGRP) at S-structure.



Subjects base-generated in spec(AGRP) are coindexed with verbal AGR, and are assigned nominative case in spec(AGR) by the functional head T/M, which is in AGR at S-structure.

Following Koopman and Sportiche (1991), nominative case can also be assigned rightward to positions governed (i-commanded) by T/M, including spec(VP):



Following Tait (1991), the head Tense/Mood is argued to have the following property:

16) Tense/Mood is a bi-unique case-assigner.

If a head is a bi-unique assigner of nominative case, then there is a single case feature available to assign, and the assigner must assign that feature to some element within its governing domain. Tait (1991:276) breaks down the notion of 'bi-uniqueness' into two component properties, UNIQUE and NECESSARY. From a case-theoretic perspective, bi-uniqueness entails that lexical elements need to satisfy a condition of case licensing imposed on them by a non-lexical  $X^0$  *in addition to* satisfying the requirements of the Case Filter, which requires all elements to be assigned abstract case by S-structure. The property of bi-uniqueness in a case-assigning node therefore creates a situation which runs counter the technical device Greed in the Minimalist Program (Chomsky 1993), whereby movement is motivated by the need for elements to check their own Case and agreement features against those of the relevant functional head rather than vice versa.<sup>12</sup> In order to satisfy the condition imposed on syntactic structures in (13), elements may move to the governing domain of Tense/Mood, but this movement may be *altruistic* if the element is already in a case-assigning position. This is exactly the

<sup>12</sup> In recent unpublished work, Chomsky reformulates the notion of Greed to include 'altruistic' movement of an element to satisfy another element's requirements.

situation in clauses where no external argument is licensed and coindexed with AGR. An analysis for these constructions is proposed in section 4.6.

The hypothesis that nominative case is assigned by a bi-unique case assigner is also consistent with intuitions about core grammatical functions. The requirement that a functional category associated with finiteness must assign nominative case at S-structure ensures that in every finite clause one element is licensed to be highest on the GF hierarchy relative to the GFs assigned by the verb. In transitive clauses this GF corresponds to Dixon's (1968) *A* function, i.e. agent of a transitive clause, whereas in unergative and unaccusative sentences the highest GF will pattern as *S*, a broad category not linked with a specific theta-role. Tait's property of bi-uniqueness in the nominative case-assigning node thus provides a structural mechanism for Maling's (1993) Case in Tiers approach for Finnish, where grammatical case is mapped onto a sentence from left to right according to a GF hierarchy, and where nominative is always assigned to the highest available GF in a given clause. It should be noted, however, that although theoretical approaches to case assignment which link morphological case directly to grammatical function have much explanatory power for 'quirky' case systems such as Icelandic,<sup>13</sup> if a unique mapping between nominative case and the highest GF is postulated, problems are encountered in accounting for Finnish sentences like the following:

- 17) Sen arva-a.  
it-acc guess-3s  
'One guesses it'

- 18) Ystävy-ttä kest-i vuode-n.  
friendship-part last-3s/past year-acc  
'The friendship lasted a year'

- 19) Tuul-i tunni-n.  
blow-3s/past hour-acc  
'(The wind) blew for an hour'

<sup>13</sup> See Webelhuth 1995:56-59 and 1995:92, fn. 51 for a critical review of the literature relating to 'problematic' case systems.

In sentence (17) above, the verb is generic, and no nominative case is assigned; in (18), partitive case is assigned to the subject; and in (19), the weather verb assigns accusative case to its adverbial modifier but licenses no subject for nominative case assignment. Assuming that (16) holds in Finnish, a slightly more complex account of the mechanisms of case assignment in is obviously required to be able to account for the data. Solutions are proposed in section 4.6.

In sum, the properties of Tense/Mood as a nominative case assigner are proposed as follows:

1.  $T/M^0$  assigns nominative case
  - a) under government (as defined by Koopman and Sportiche 1991) or
  - b) via spec-head agreement
2.  $T/M^0$  assigns case at S-structure
3.  $T/M^0$  is a bi-unique case assigner.

#### **4.4 Objective case assignment**

This section is devoted to a discussion of the mechanisms that underlie assignment of case to complements. First, the notion that objective case is assigned external to VP is disputed: objective case is argued to be assigned under government by V rather than under spec-head agreement by an objective case-assigning functional head. The accusative-partitive case alternation will then be discussed; the distribution of both objective cases has received some attention in the literature, and any account of grammatical case in Finnish must be able to account for the distribution of partitive as well as nominative and accusative cases. Both partitive and accusative cases are shown to be closely associated with a particular type of theta-role assigned at D-structure.

#### 4.4.1 Objective Case assignment: spec-head agreement or government by head?

Following Chomsky (1993), there has been a recent trend in theoretical syntax toward restricting all structural case assignment to specifier positions, under spec-head agreement, as opposed to under government as previously assumed. One (tangential) theoretical aim of the Minimalist Program is to eliminate the structural asymmetry of case assignment inherent in the Principles and Parameters framework. In previous versions of Case Theory (e.g. as described in Chomsky 1981), objective case is assigned to the right by V under government to a complement, but the assignment of nominative case to subjects is assigned leftwards under spec-head government to spec(IP). In Chomsky (1993) this asymmetrical government relation is recast as a specifier-head relation only, with elements required to raise (or adjoin) to higher specifier nodes in order to check features (e.g. case and  $\phi$ -features) present in functional heads, especially TNS and AGR. In addition to subject agreement (AGR<sub>S</sub>), previously assumed to project as a single functional head (Pollock 1989), object agreement (AGR<sub>O</sub>) is also taken to project. The two agreement nodes assign nominative and accusative case under spec-head agreement. The Case Filter is subsumed within Checking, an interface condition “that all morphological features must be checked somewhere, for convergence” (Chomsky 1993:41) rather than acting as a filter at S-structure as in previous models. Although he does not specifically claim that AGR<sub>O</sub> is part of a universal template, Chomsky suggests that in a language like English where both subject and object agreement features are weak, movement to AGR<sub>O</sub> by the object occurs at LF so that case assignment can occur with checking of weak agreement features under spec-head agreement. Because this movement occurs post-Spell-Out, it is nonovert. Consistent with the proposal for nominative case assignment to subjects, where nominative case is associated with the incorporation of Tense into AGR<sub>S</sub>, accusative case is technically assigned only after V has undergone head-movement to AGR<sub>O</sub>.

Analyses following Chomsky (1993) have focussed on the case-assigning properties of AGR<sub>S</sub> and AGR<sub>O</sub> in syntactic accounts of ergativity. Following observations relating to the distribution of object agreement in ergative languages (e.g. Moravcsik 1978),

Chomsky (1993:13) accounts for the two language types as an instance of parametric variation reducible to the relative strength of features in  $AGR_S$  and  $AGR_O$ , respectively. Assuming that absolutive and accusative case are both assigned by the lower AGR node, while ergative and nominative case are both assigned by the upper AGR node, he argues that in Nom/Acc languages, NPs in intransitives pattern as subjects of transitive clauses because  $AGR_S$  is “active” and case-assigning but  $AGR_O$  is inert or missing, while the reverse holds true in Erg/Abs languages:  $AGR_O$  assigns absolutive case to the single argument. Chomsky concludes that “the distinction between the two language types reduces to a trivial question of morphology” (1993:13). However, given the fact that “no language has thus far been reported that is fully ergative, at both morphohological and syntactic levels” (Dixon 1994:14), Chomsky’s rather broad hypothesis requires more fine-grained testing as to why one or the other of the two case-assigning nodes in a given language might be active or inactive, resulting in an ergative split. For instance in Basque, a syntactically ergative language, a split-S pattern also occurs in single argument clauses. Arguments in unaccusative sentences are marked with absolutive case, and those in unergative clauses receive ergative case (data from Laka 1993:151-2):

20) emakumeak      emakumea      ikusi du  
       woman-the-erg woman-the-abs seen has  
       ‘The woman saw the woman’

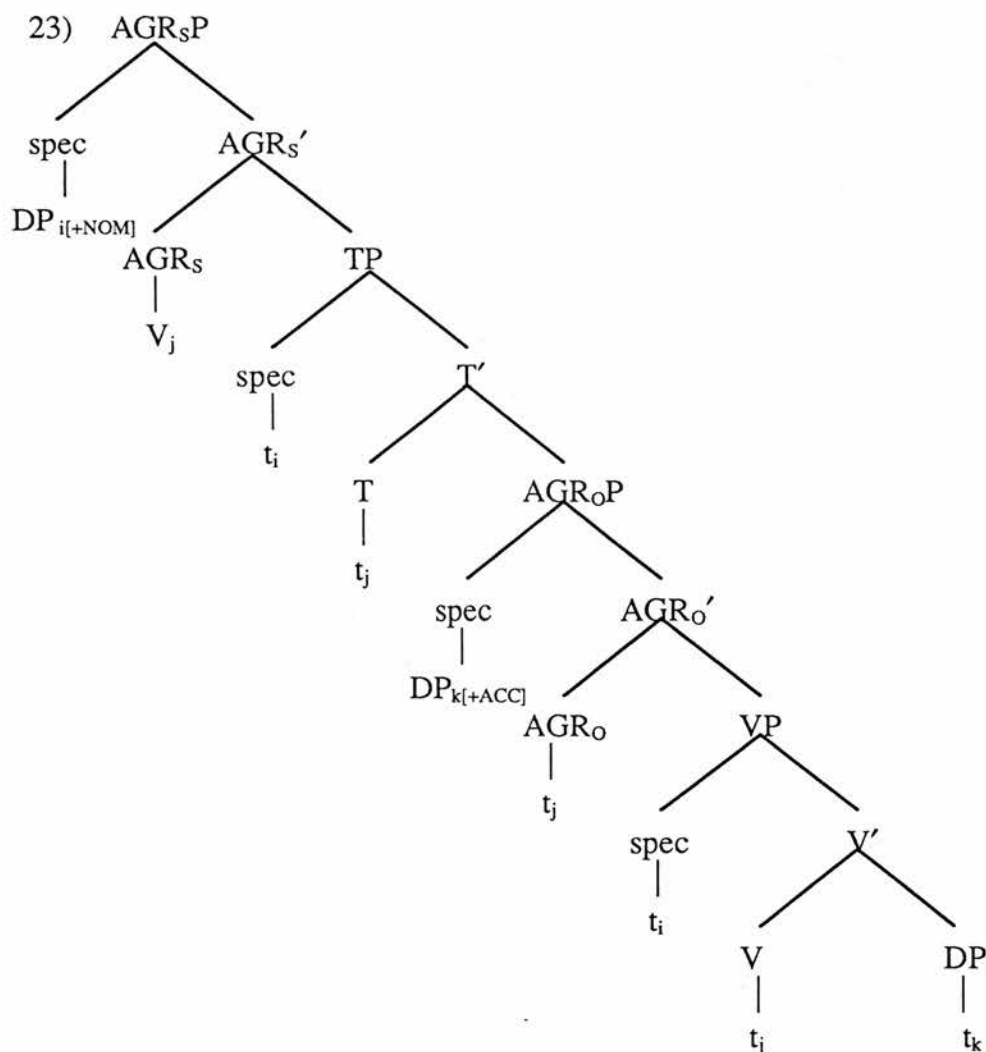
21) emakumea      erori da  
       woman-the-abs fallen is  
       ‘The woman has fallen’

22) emakumeak      barre egin du  
       woman-the-erg laugh done has  
       ‘The woman has laughed’

Laka (1993) notes that this pattern in unergatives does not conform to that predicted by Minimalist Program accounts: the single argument of an intransitive sentence in an ergative language should receive absolutive case regardless of the grammatical function of the argument. Laka’s account of unergatives in Basque depends in part on the morphological status of unergative verbs, which in Basque include unincorporated nouns and light verbs. The fact that unergatives in Basque are not the result of incor-

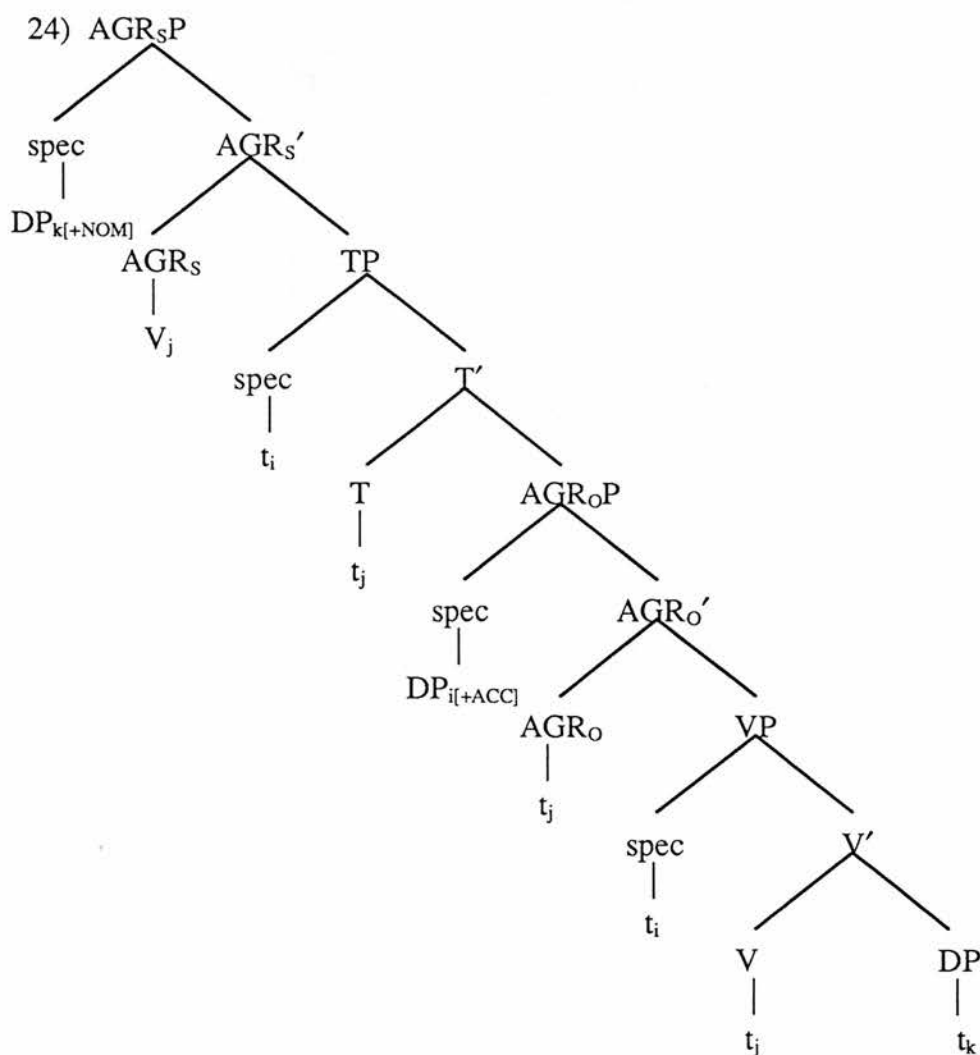
poration allows an analysis wherein the noun within the VP has the status of an argument, and the sentence is syntactically transitive with both AGR nodes active and case-assigning. Unaccusatives in Basque, Laka argues, are truly monoargumental, and absolutive case is assigned by the lower AGR as predicted. Unfortunately Laka's analysis cannot be extended to Finnish, since unergatives and unaccusatives share similar verbal morphology.

Models which assume VP-internal subjects *and* VP-external accusative case assignment encounter technical problems when all elements within VP raise to higher functional projections, in the case of V to incorporate inflectional features, and in the case of DPs to check features or get Case. Within the Minimalist Program, a transitive sentence at Spell-Out is assumed to have the following structure:



Within Principles & Parameters-based approaches, this model of case assignment encounters two main problems. Firstly, in an SVO language, surface case is the result of NP-movement of two arguments, one of which must cross the other on the way out of VP. The resulting structure, where the trace of the subject in spec(VP) intervenes between the antecedent object in spec(AGR<sub>S</sub>) and its trace in V', is in violation of the ECP and Minimality.

Furthermore, if there are two functional heads where structural case can get assigned, there is nothing to prevent the subject moving to the (lower) accusative case-assigning position and the object raising to the (higher) nominative case-assigning position, as in (22) below:





Within approaches based in the Principles & Parameters framework, movement is not motivated by feature-checking, so if two case-assigning functional heads are posited there is no way to rule out the possibility of elements raising to the 'wrong' position, as long as the Case Filter is satisfied.<sup>14</sup> In either case, one of the arguments must raise past a more local case-assigning specifier position on its way to get case, presenting problems for Minimality.

Within the Minimalist Program, these two difficulties can be resolved with varying success. Firstly, movement of subjects and objects in the model is motivated by a need to check features against the appropriate node in the structure; case features emerge from the lexicon in both arguments and functional heads along with  $\phi$ -features. A subject therefore cannot check its agreement and case features off against the features in  $AGR_O$ , and similarly an object cannot check off subject agreement features in  $AGR_S$ .<sup>15</sup> The model thus ensures that the correct argument must move to the correct AGR node.

The problem of 'crossing' paths is more difficult to reconcile, since movement is supposed to be as economical as possible. Chomsky (1993) recognises the difficulties caused by this analysis and is essentially forced to stipulate that the subject raises to  $spec(AGR_S P)$  to check features *prior* to Spell-Out, when the positions of  $spec(AGR_O P)$  and  $spec(TP)$  have not yet been projected. This allows movement without violating Shortest Move, a constraint related to Relativized Minimality. The object raises to  $spec(AGR_O P)$  to check features *after* Spell-Out, when the relevant positions

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<sup>14</sup> Koopman and Sportiche (1991:244) discuss this problem and conclude that subjects must be base-generated external to  $AGR_O$ , in languages where  $AGR_O$  projects. As an example of morphologically overt object agreement they give data from French passive participles, which might be argued to be within the maximal projection of V because of their argument-changing properties. Although this hypothesis is internally consistent with their proposals that subjects are base-generated external to VP, it remains unclear why a projection of object agreement should be construed as being within the maximal projection of V while Tense and other inflectional elements are not (cf. Grimshaw 1990 and the notion of Extended Projection), particularly for languages where object agreement morphology is not related to passive morphology.

<sup>15</sup> Languages such as French which show object agreement in passive participles provide a counterexample, however: an internal argument checks features (and presumably gets assigned Case) in both  $spec(AGR_O)$  and  $spec(AGR_S)$ .

have projected. Furthermore, Chomsky must redefine the notion of 'distance' so that the object may move directly to  $\text{spec}(\text{AGR}_O)$  without passing through  $\text{spec}(\text{VP})$ , which would otherwise violate the principle of Shortest Move. The derivational nature of the Minimalist Program allows such appeals to cyclicity, but inelegant stipulations must still be made. Due to such technical problems, in recent unpublished work Chomsky suggests that  $\text{AGR}_O$  does not project universally. In sum, both the Minimalist Program and representational approaches broadly subsumed within the Principles and Parameters framework encounter a number of technical problems when both VP-internal subjects and VP-external accusative case assignment are assumed.

The second type of problem encountered by the postulation of an accusative case assigning functional head external to VP involves morphology and morphological licensing. As mentioned previously, within the Minimalist Program it is assumed that object agreement features are present on all verbs, but that these features may be 'strong' or 'weak'. This approach again brings to light a problematic discrepancy between feature specification and the realisation of those features in the morphology. There is no evidence whatsoever from the morphology of English (or indeed the majority of languages) for the syntactic projection of object agreement features as a head, yet in the Minimalist Program object agreement features are suggested as being present (at LF, at least) in all languages. Conversely, as we have seen, in Finnish a third person singular overt agreement morph does not necessarily host subject agreement features coindexed with an external argument; in this case a head might be morphologically licensed but empty of features. It is also unclear whether individual  $\phi$ -features such as gender and number may project independently as functional heads (as argued by Shlonsky 1989).<sup>16</sup> To posit a functional head which hosts a given inflectional feature has wide-ranging ramifications for syntactic theory, in that another position is created as a landing site for A or A' movement and case assignment under spec-head agreement.

One much-needed theoretical constraint on the postulation of functional heads is provided by the PF-Licensing Principle given in (2) above. The PFLP restricts the acquis-

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<sup>16</sup> Cited by Webelhuth (1995).

tion and representation of elements in the syntax to those which are licensed by phonological material at PF. This entails that a projection of agreement (subject or object) in a given language crucially depends on its realisation in the phonology (and by extension, the morphology) of that language. Under this hypothesis, functional head templates are strictly language-specific; a putative AGR projection in English or Chinese is thus ruled out by the morphology, in part because insufficient phonological/morphological evidence exists for an acquirer of English or Chinese to posit such a projection. Since AGR<sub>O</sub> in these languages cannot project or be acquired under the PFLP, it cannot assign accusative case cross-linguistically.

Data from French passive participles is often cited as evidence in favour of a universally-projecting AGR<sub>O</sub>. However, there is clear evidence that AGR<sub>O</sub> is not morphologically licensed in Finnish. The Finnish data is interesting in this respect: although active participles agree in number with subjects, passive participles fail to agree with the derived subject:

- 25) a. Nainen            on   korja-nnut   viemäri-n.  
       woman-nom is-3s repair-pcp/sg drain-acc  
       'The woman has repaired the drain'
- b. Naise-t            ovat korja-nneet   viemäri-n.  
       woman-nom/pl is-3p repair-pcp/pl drain-acc  
       'The women have repaired the drain'
- 26) a. Astia            on   tiska-ttu.  
       dish-nom is-3s wash-pcp/pass  
       'The dish has been washed'
- b. Astia-t            on   tiska-ttu.  
       dish-nom/pl is-3s wash-pcp/pass  
       'The dishes have been washed'

The data from passive participles strongly suggest that passivised elements do not pass through a lower agreement projection, or if they do, that they fail to trigger agreement. Since a putative projection of AGR<sub>O</sub> would be lacking in  $\phi$ -features, in all sentence types, an acquirer of Finnish would have little evidence on which to postulate a projection.

Despite the indications that  $AGR_O$  is not licensed in Finnish, it might be possible to postulate another functional head as being responsible for licensing accusative case. Several recent analyses have posited Aspect as a functional head involved in accusative case assignment. In Korean, adjectives can appear marked for tense, aspect, and modality, behaving strongly like verbal predicates. However, only verbs (27b) can assign accusative case, while adjectives assign nominative case (27a) (data from Lee 1993:73):

- 27) a. Minho-ka holangi-ka/\*lul mwusepta  
 Minho-nom tiger-nom/acc be afraid of  
 'Minho is afraid of a tiger'
- b. Minho-ka Mary-lul/\*ka anta  
 Minho-nom Mary-acc/nom know  
 'Minho knows Mary'

In Korean, nominative 'objects' alternate with accusative objects depending on aspectual information encoded in the predicate. Based on this data as well as data from gerundive constructions similar to Finnish temporal clauses, Lee concludes that accusative case in gerunds gets licensed as the result of V incorporating an aspect morpheme, which projects as a functional head Aspect. Furthermore, an aspectual feature [- STATIVE] must be present for finite verbs to assign accusative case. Lee contrasts her analysis to that of Miyagawa (1991),<sup>17</sup> who suggests that accusative case in Japanese is assigned at S-structure under spec-head government by the functional head Aspect. Both works attempt to unify case assignment rules with analyses of scrambling.

Arguments have been made in support of a functional head associated with Aspect in Finnish and other Finno-Ugric languages (Mitchell 1991b postulates a functional head ASP for Finnish; Julien 1994<sup>18</sup> analyses ASP as analagous to  $AGR_O$  in Saami). As discussed in Chapter 1, there is evidence from Finnish morphology that Perfect tense

<sup>17</sup> Cited by Lee (1993:69 ff.)

<sup>18</sup> In a ms. summarised by Anne Vainikka in *Finnsyntax* (7, August 1994), a monthly electronic newsletter devoted to the generative syntax of Finnish.

projects as a functional head immediately dominating VP in active sentences, consistent with models of case assignment wherein  $AGR_O$  is still within the maximal projection of V (e.g. Koopman and Sportiche 1991, Ramchand 1995). Since sentential semantics seem to play such a crucial role in the assignment of objective case in Finnish, especially in the partitive-accusative case alternation, PERF might be a viable candidate for VP-external accusative or objective case assignment.

However, the complex nature of the Finnish tense/aspect system makes such a postulation difficult. The participles licensing PERF encode features for perfect and pluperfect *tense*, but most aspectual distinctions in Finnish (including imperfectivity/perfectivity) are signalled by the partitive-accusative case alternation independent from perfect tense:

- 28) Hanna ol-i rakenta-nut talo-n  
 Hanna be-past/3s build-pcp house-acc  
 'Hanna had built a house'

- 29) Hanna ol-i rakenta-nut talo-a  
 Hanna be-past/3s build-pcp house-part  
 'Hanna had been building a house'

Moreover, the Perfect functional head in Finnish is licensed only by participial affixes that appear on verbs when Tense/Mood and AGR are hosted by an auxiliary:

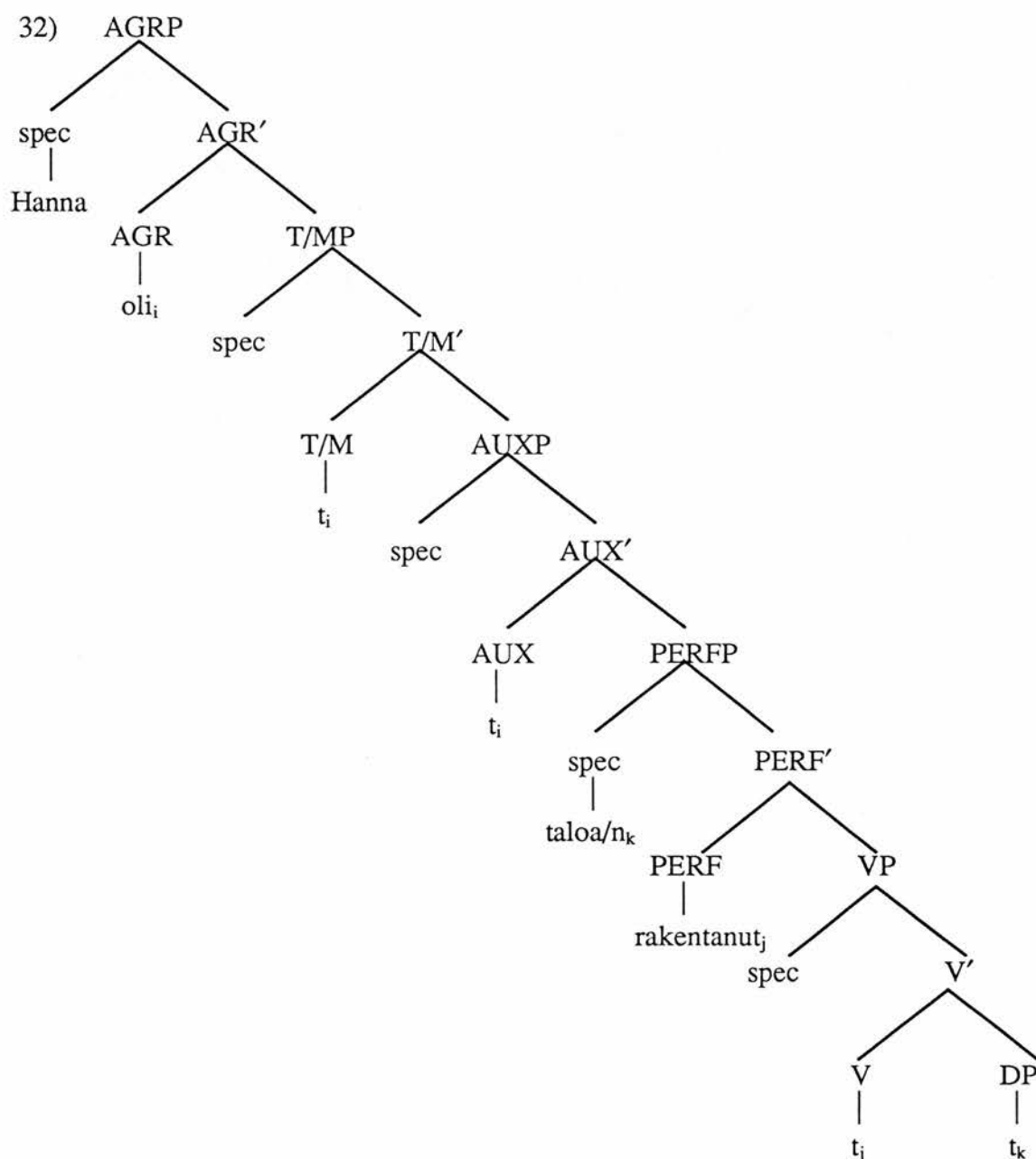
- 30) Aili ol-i men-nyt kauppa-an.  
 Aili-nom aux-past/3s go-pcp shop-to  
 'Aili had gone to the shop'

In the absence of perfect and pluperfect tense, no participle appears:

- 31) Aili men-i kauppa-an.  
 Aili-nom go-past/3s shop-to  
 'Aili went to the shop'

Given the 'Minimal IP' hypothesis adopted earlier in the chapter, the fact that PERF is not licensed by the morphology in all sentences suggests that it is not involved in objective case assignment.

Finally, a problem with word order emerges in sentences such as (30) and (31) above if either accusative or partitive is assumed to be assigned exclusively under spec-head agreement in PERF. Since the trace of AUX prevents head movement of the verbal complex V+PERF higher than PERF, the object would have to occur preverbally in order to get assigned case, yielding a basic SOV word order:



Unlike e.g. Scottish Gaelic (Ramchand 1995, Adger 1994), no word order effects are visible which correlate with the aspectual distinction signalled by the partitive/accusative case alternation. For these reasons PERF will not be posited as an objective case assigner that assigns under spec-head agreement external to VP.

Given the difficulties incurred by attempting to account for objective case assignment as licensed by a spec-head relation external to VP, it is proposed here that objective case (i.e. both accusative and partitive) is assigned under government by V to its complement, consistent with previous accounts of Case assignment within the Principles and Parameters framework and as assumed in earlier analyses of case in Finnish (van Nes-Felius 1983, Milsark 1985, and Reime 1989, 1993). Specific mechanisms of assignment for partitive and accusative objective cases are discussed in greater detail in section 4.4.2: it is argued that objective partitive and accusative case is associated with the assignment of aspectual theta-roles by V.

#### 4.4.2 The Partitive/Accusative Case Alternation

In the previous section, V is suggested as the objective case assigner under government for Finnish. This hypothesis does not, however, explain the alternation of partitive and accusative objective case: if V both governs and theta-marks its complement, then one objective case may be inherent and one structural in transitive sentences. Recall from Chapter 2 that the partitive/accusative alternation in Finnish signals a variety of aspectual oppositions, including boundedness, telicity, and resultativity, and is assigned under Negation.

- 33) a. Mikko        sö-i        kakku-a  
       Mikko-nom eat/past 3s cake-part  
       'Mikko ate some of the cake' or 'Mikko was eating the cake'
- b. Mikko        sö-i        kaku-n  
       Mikko-nom eat/past 3s cake-acc  
       'Mikko ate the entire cake'



- 34) a. Mikko            e-i        syö-nut            kakku-a  
          Mikko-nom neg-3s eat-pcp/past    cake-part  
          'Mikko didn't eat some of the cake' or 'Mikko wasn't eating the cake'
- b. \* Mikko            e-i        syö-nut            kaku-n  
          Mikko-nom neg-3s eat-pcp/past    cake-acc

Based on previous work which maintained that the partitive has the "widest functional distribution" of the objective case forms in Finnish (Yli-Vakkuri 1987:203) and that the partitive is unmarked in the partitive/accusative opposition (Heinämäki 1984), it has been argued extensively by Vainikka (1989, 1990, 1993) and Vainikka and Maling (in press) that the case assignment system of Finnish utilises a structural default mechanism for grammatical case assignment. According to this approach, all NPs in complement position (of V, P, and A) receive partitive rather than accusative case by structural default. Accusative case, posited as the marked objective case, is assigned as the result of a single aspectual feature [+COMPLETED] under government by V. However, positing partitive as a structural case (i.e. assigned at S-structure) cannot account for the fact that partitive case may appear on DPs in subject position:

- 35) Kalakukko-a ei        syö-da.  
      fish pie-part neg-3s eat-pass  
      'The fish pie will not be eaten.'

To account for this, Vainikka argues that partitive case is assigned at D-structure. Accusative case in her model (Vainikka 1989c) is assigned or realised at various stages of the derivation, depending on the type of argument receiving case; pronouns and plurals receive their case affix *-t* before 'genitive percolation', the process by which the full DP accusative morph *-n* affixes to DPs. The latter process can occur only after subjects have raised to IP and 'stranded' their genitive *-n* case feature.

Following work by Perlmutter (1978) and Burzio (1986), Belletti (1988) seeks to refine the Unaccusative Hypothesis by arguing that unaccusative verbs lose their ability to assign accusative case, but may still assign inherent partitive case. Examining data from Romance, English and Finnish, she accounts for the so-called Definiteness Effect as arising from the fact that partitive is a universally-occurring inherent case linked



with an 'existential theta-role', assigned by unaccusative verbs. According to Belletti, partitive-marked DPs may only receive an indefinite reading. However, as noted by Vainikka & Maling (in press) and Ramchand (1995), this prediction is simply not borne out by the Finnish data; an object in the partitive may appear in a sentence with irresultative aspect but the interpretation may be definite:

- 36) Anna kirjoitt-i kirja-a.  
 Anna write-past/3s book-part  
 'Anna was writing the book'

Moreover, there are problems with Belletti's putative connection between partitive case and the assignment of an 'existential' theta-role, particularly given that partitive is invariably assigned under negation in Finnish.

- 37) a. Minä tapa-si-n miehe-n.  
 I-nom meet-past-1s man-acc  
 'I met a/the man'
- b. Minä e-n tava-nnut mies-tä.  
 I-neg neg-1s meet-pcp/past man-part
- c. \*Minä e-n tava-nnut miehe-n.  
 I-neg neg-1s meet-pcp/past man-acc

Vainikka & Maling (in press), in an answer to Belletti, conclude that partitive is structural, and therefore not linked to a particular theta-role. By reducing accusative case assignment to the presence of a verbal feature [+COMPLETED], the alternation between the two objective cases is skewed toward the partitive as a structural default, with the accusative dependent on the presence of a *verbal* feature. The appearance of the partitive case is not seen as having a bearing on the interpretation of the argument in question as definite or indefinite, or on the interpretation of the predicate as a whole. One problem with this approach is that it fails to account for the appearance of accusative case in possessive (stative) predicates:

- 38) Sinu-lla on minu-t.  
 you-adess is-3s me-acc  
 'You have me'

Vainikka and Maling's model predicts (38) to be ungrammatical, because the copular verb denotes a stative rather than a [+COMPLETED] event. However, the sentence is felicitous.

Rigler (1992) strongly rejects the viability of formal syntactic accounts of the partitive/accusative alternation in Finnish. She argues that the partitive/accusative alternation is closely associated with the aspectual notion of boundedness, which is neutral in telicity and durativity, but notes that there is no direct correlation between the boundedness of the verb and the case form of its complement, so that a verb or sentence with an aspectual feature such as [+/- COMPLETED] could not predict the occurrence of a partitive object. She concludes that the partitive/accusative alternation is accountable only in purely semantic terms, determined at the phrasal level, and that neither case could be structurally assigned.

One syntactic account of objective case in Finnish which does take into account the interplay between the lexically-determined semantics of a verb on the one hand, and the properties of the object on the other, is given in De Hoop (1992). This analysis links morphological partitive case in Finnish with 'weak' structural case, which is assigned as a default at S-structure and induces a 'weak interpretation'. Weak structural case is assigned as the result of a particular *relation* of an argument to a predicate, and contrasts with strong structural case of accusative DPs. To account for certain scrambling effects from Dutch, De Hoop must stipulate that elements assigned Weak Structural Case must occur in their D-structure positions at S-structure. Although Finnish data such as (35) are problematic for such an analysis, the effects of argument type and predicate type on the eventual interpretation of the sentence is an important step forward.

Ramchand (1995) adopts De Hoop's notion of weak and strong structural case, and incorporates them into account of aspect and argument structure primarily for Scottish Gaelic. In Scottish Gaelic, word order varies between VSO and SVO, depending on

the presence of an aspectual particle *ag* associated with the aspectual feature [-bound] (data from Ramchand 1995:17):

- 39) a. Dh'òl      Calum      leann.  
       drink-past Calum-dir beer  
       'Calum drank beer'
- b. Bha      Calum ag òl              leann.  
       be-past Calum asp drink-vnoun beer  
       'Calum drank/was drinking beer'

In (39a) above, the object appears sentence-finally. In (39b), specification for tense appears on an auxiliary, while the verb appears as a verbal noun. The object appears post-verbally. Ramchand posits a projection of Aspect headed by *ag* as part of the extended projection of V in Scottish Gaelic and in other languages.

Moreover, as in Finnish, count nouns may be interpreted as definite or indefinite depending on their structural position (and case-marking), regardless of the resultativity/irresultativity of the predicate (data from Ramchand 1995:65):

- 40) a. Bha      Calum a'gearradh      chraobhan.  
       be-past Calum ag cut-vnoun trees-gen  
       'Calum was cutting trees'
- b. Gheàrr Calum chraobhan.  
       cut-past Calum trees-dir  
       'Calum cut some particular trees'
- 41) a. Bha      Calum a'faicinn      chraobhan.  
       be-past Calum ag see-vnoun trees-gen  
       'Calum saw trees'
- b. Chunnaic Calum chraobhan.  
       see-past Calum trees-dir  
       'Calum saw some particular trees'

Ramchand argues that boundedness is a property specified by the Aspectual head dominating V, and that strong and weak structural case are assigned in two separate positions, spec(VP) and complement position, depending on where the argument is base-generated. Arguments in complement of V position are governed by V, while ar-

guments in spec(VP) are properly governed by Asp. The assignment of strong and weak structural case is not simply determined by which element governs it, however. In an attempt to better formalise the vague roles in traditional Theta-Theory (AGENT, PATIENT, etc.), and following recent work in the syntax of aspect, Ramchand links strong structural case with the assignment of certain aspectual theta-roles by the verbal predicate at D-structure. These roles are (Ramchand 1995:103):

- 42) (1) Patient<sub>=</sub>, assigned with creation/consumption verbs, in which the property of quantizedness has an effect on the interpretation of boundedness (e.g. *Calum has eaten the apple*);
- (2) Patient<sub>→</sub>, assigned with verbs of motion, in which the quantizedness of the object does not affect the interpretation of boundedness, and to which the addition of a goal phrase makes the interpretation telic (e.g. *Calum has pushed the car*);
- (3) Patient<sub>+/-</sub>, assigned by change of state verbs in which the quantizedness of the object does not affect the interpretation of boundedness, and to which the addition of a resultative phrase makes the interpretation telic (e.g. *Calum has broken the window*);
- (4) Mod, assigned by statives and which specifies that no bounded interpretation is possible in otherwise aspectually underdetermined predications. This role is not assigned by Aspect (e.g. *The sea looks black*).

Ramchand argues that these theta-roles cannot be specified at the lexical level; only in D-structure configuration, i.e. postlexically, can these theta-roles be assigned by a predicate, under government by an aspectual head. This hypothesis contradicts standard Theta Theory, which assumes that thematic roles can be specified by a verb at the lexical level. The evidence from Gaelic, however, suggests that only at the syntactic level can these roles be assigned, when the relevant functional categories related to Aspect govern V at D-structure.

In her model of case assignment, strong structural case is assigned under government by Aspect in conjunction with the assignment of an aspectual theta-role (i.e. all roles except  $\theta_{mod}$ ) while weak structural case is assigned by V, which cannot assign aspectual theta-roles itself. In this framework, the whole division between inherent and structural case begins to unravel: structural case is linked with particular theta-roles and with particular positions. Moreover, Ramchand assumes that no case-driven movement takes place between D- and S-structure; elements are base-generated *in situ*,

and no NP-movement takes place. This effectively renders the D-/S-structure distinction between inherent and structural case invalid.

Can these proposals account for the partitive-accusative case alternation in Finnish? Ramchand discusses the Finnish data, using them as an example of a language which signals weak structural case by morphological means (partitive). Although the data from Scottish Gaelic clearly supports an Aspect projection, we have seen that positing the same projection as universally-occurring in Finnish is more problematic, since perfectivity/imperfectivity can be signalled independently from other oppositions signalled by partitive case:

- 43) a. Hanna ol-i rakenta-nut talo-a  
       Hanna be-past/3s build-pcp house-part  
       'Hanna had been building a house'
- b. Hanna ol-i rakenta-nut talo-n  
       Hanna be-past/3s build-pcp house-acc  
       'Hanna had built a house'

In Finnish, there is no morphological evidence for an independent projection of Aspect occurring in all aspectually-marked clauses, and this is problematic for Ramchand's analysis. Moreover, there are no word-order effects to suggest that partitive is assigned in a different structural position from accusative case. The aspectual theta-roles she discusses, however, do correlate with the distribution of accusative case in Finnish, and her  $\theta_{\text{mod}}$  does pattern with partitive (or weak structural) case.

The problem remains as to how Ramchand's notion of configurationally-determined aspectual theta-roles can be adopted to account for the partitive/accusative alternation in Finnish, despite the lack of evidence for a functional head corresponding to Aspect. To a certain extent it is possible to skirt the issue here. Whether aspect (and therefore the assignment of aspectual theta-roles) is determined lexically or at D-structure, by D-structure these roles have been assigned, since the extended projection of V (Grimshaw 1991) includes shared features for all aspects of verbal semantics associated with tense and aspect (e.g. perfectivity). Also at D- and S-structure, the semantic

operator Negation governs V and blocks the interpretation of the predicate as bounded. Since the partitive/accusative alternation correlates with the assignment of these aspectual roles, objective case assignment may be directly associated with them. The following case-assigning rules are proposed:

- 44) a. Associate accusative case with assignment of aspectual theta-role.  
 b. Associate partitive case with assignment of  $\theta_{\text{mod}}$  role.<sup>19</sup>

Given that V assigns case under government rather than via an external functional projection as argued in section 4.4.1, V emerges as the assigner of aspectual theta-roles and both objective cases, and the alternation between accusative and partitive case is accounted for.

Since one of the other functions of the accusative is to signal definiteness, given (44) the question arises as to what happens when an definite object receives a non-aspectual theta-role, and partitive case. De Hoop (1992) describes partitive case in Finnish as a Weak structural case, and notes that the argument is interpreted as definite:

- 45) Maija korja-si ove-a.  
 Maija repair-past/3s door-part  
 'Maija was repairing the door'

In other words, the function of the partitive case to signal indefiniteness is superseded by the irresultative aspect of the sentence, because the relationship between the argument and predicate is more relevant to the assignment of Weak structural case than the individual properties of the argument (e.g. definiteness). De Hoop's observations run counter to the claim made by Belletti (1988) that partitive case is inherently assigned by verbs licensing an 'existential' theta-role associated with *indefiniteness*.

<sup>19</sup> Vainikka (1989c, 1993) and Vainikka and Maling (in press) argue that partitive case is a structural default case, while accusative is related to a semantic verbal feature [+COMPLETED]. In the current analysis, accusative case is linked with a aspectual roles related to telicity and boundedness, and so resembles a more formalised version of Vainikka and Maling's analysis. However, both accusative and partitive are argued to be assigned at D-structure, since they are both assigned in association with particular theta-roles. Because the partitive case is associated with a nonaspectual role, it may be viewed as signalling an aspectually unmarked or default state.

In the current work, both accusative and partitive case are linked with the assignment of aspectual and non-aspectual theta-roles. If aspectual theta-roles are assigned at D-structure, at what level is objective case assigned by V? One possible analysis of objective case in Finnish is that accusative and/or partitive are assigned inherently. The definition of inherent case, linked with theta-role assignment, is subsumed under the Uniformity Condition on Case Marking, given in Chomsky (1986a:194):

- 46) If  $\alpha$  is an inherent Case-marker, then  $\alpha$  Case-marks NP if and only if  $\alpha$  theta-marks the chain headed by NP.

Inherent Case is assumed to be assigned at D-structure but checked at S-structure (Haegeman 1991:315); this entails that an element may move out of VP (e.g. dative subjects of passives in German) and still be assigned case. However, the structural/inherent case distinction encounters difficulties when faced with 'quirky' subjects in Icelandic and certain passivised verbs in German (Webelhuth 1995:56-59).

Moreover, the assumption that structural accusative case is assigned at S-structure is problematic. If accusative case assignment under V is structural rather than inherent, and therefore assigned at S-structure, how can a verb assign case to its complement if it has undergone head-movement into higher functional projections (see 48c below) by S-structure? If structural accusative case can be assigned by a head-chain (as opposed to *to* an NP-chain) then structural case assignment by verbs must also hold at D-structure.

For objective case-assignment by verbs, then, the inherent/structural case distinction is not particularly clear-cut. Moreover, it has been argued that a reformulation of theta-roles to involve aspectual semantics better accounts for the Finnish data. These roles are assigned at D-structure rather than specified in the lexicon, which entails that theta-role assignment is linked to structural configuration in a different way than previously supposed. In light of these factors, the notion of inherent objective case is rejected for Finnish, and partitive and accusative case are analysed as structural cases.



#### 4.5 Case assignment in transitive clauses

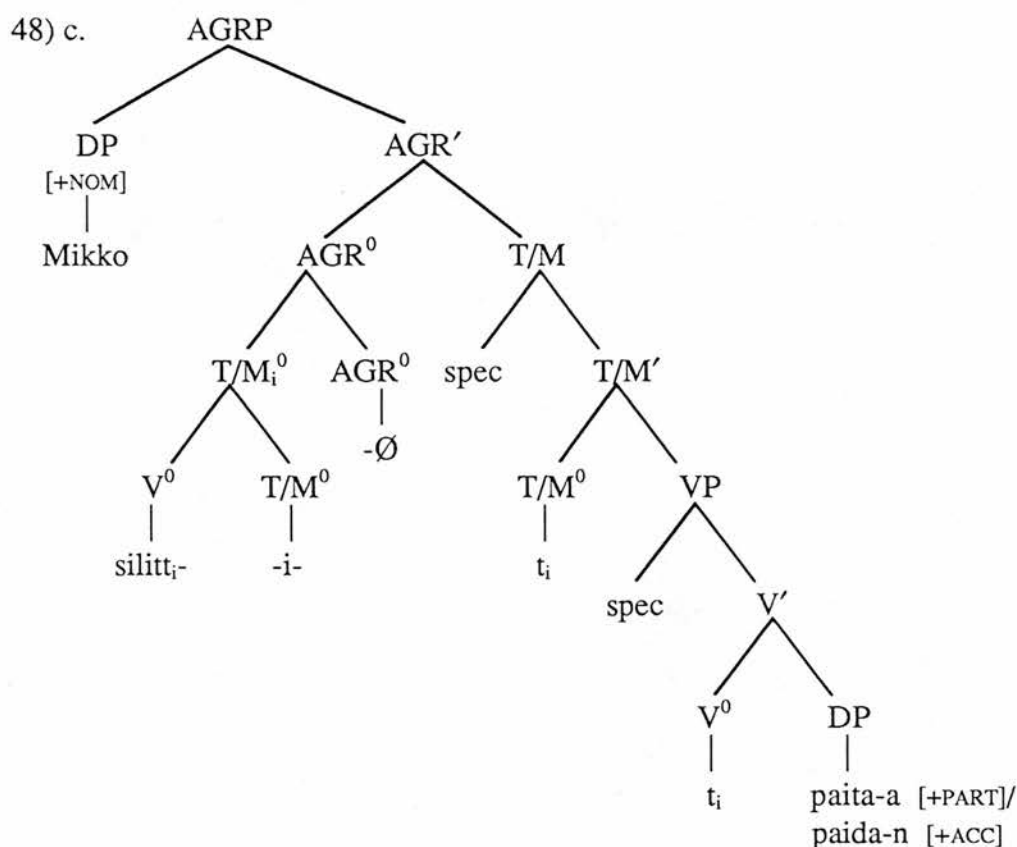
So far, grammatical case has been argued to be assigned in the following two ways:

- 47) a. Tense/Mood (T/M) is a bi-unique assigner of nominative case, either under spec-head agreement or under government. Nominative case is assigned at S-structure.
- b. Accusative and partitive case are associated with aspectual theta-roles assigned by V under government at D-structure.

Given these mechanisms, case assignment in transitive sentences can be accounted for. The sentences below exemplify transitive sentences with a nominative subject and a partitive or accusative object reflecting a resultative/irresultative aspectual distinction:

- 48) a. Mikko            silitt-i            paida-n  
          Mikko-nom iron-past/3s shirt-acc  
          'Mikko ironed the shirt'
- b. Mikko            silitt-i            paita-a  
          Mikko-nom iron-past/3s shirt-part  
          'Mikko was ironing the shirt' / 'Mikko ironed part of the shirt'

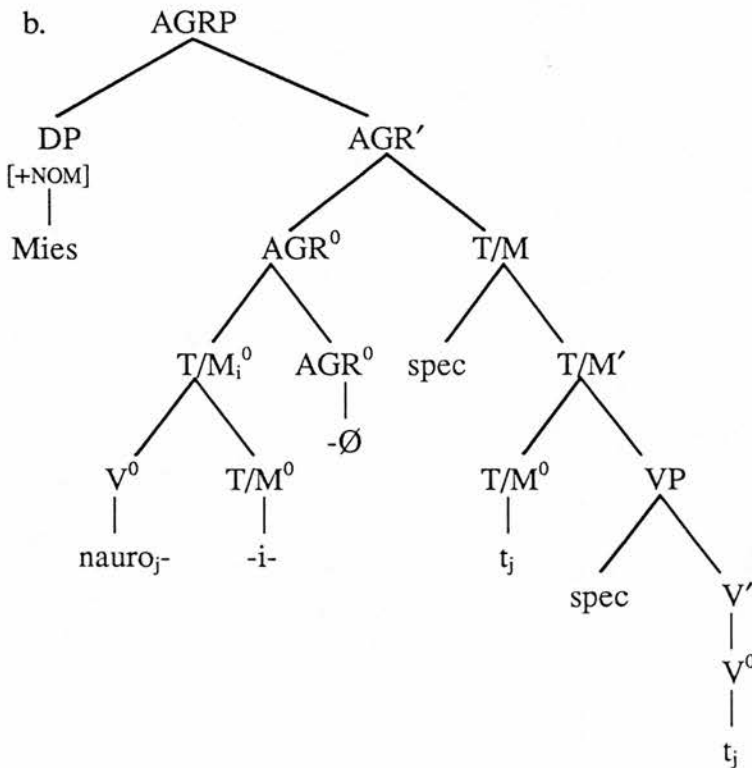
The sentences above share the same the S-structural representation, given below:



The external argument of V is base-generated in spec(AGRP), where it is coindexed under spec-head agreement with  $\phi$ -features there. V undergoes head movement to Tense/Mood and AGR to incorporate inflectional affixes and thus avoid a violation of the Stray Affix Filter. Since T/M is incorporated into AGR at S-structure, nominative case can be assigned to the subject DP in its specifier position, and the bi-unique case-assigning property of T/M is satisfied. The internal argument of V is assigned case in situ under government by the coindexed trace of V, by virtue of the GMC (Baker 1988): in the resultative sentence, an aspectual theta-role is assigned, and the verb assigns accusative case, while in the irresultative sentence, no aspectual theta-role is assigned and the object surfaces in partitive case.

In an unergative sentence such as (49a) below, V does not L-mark a complement. V undergoes head movement to AGR via Tense/Mood (49b), while the external argument remains in situ in spec(AGRP):

- 49) a. Mies            nauro-i  
        man-nom    laugh-past-3s  
        'The man laughed'



No internal argument is licensed and the external argument is coindexed with AGR. Nominative case is assigned under government by the head Tense/Mood.<sup>20</sup>

<sup>20</sup> A problem arises at this point: in negated sentences, the functional head NEG intervenes between AGR and T/M. NEG raises to AGR and V raises to T/M, but T/M cannot raise to govern the spec(AGRP) position. How can nominative case be assigned to the subject base-generated in spec(AGRP)? It may be the case that Negation has the status of a verb into which the verbal compound incorporates and shares features. Alternately, NEG may not project as a head at all, but adjoin to AGR or T/M as a specifier. The fact that NEG projects between AGR and T/M in Finnish is equally problematic for an approach where nominative case is assigned by the complex formed when finite T/M moves into AGR (e.g. Chomsky 1993).

#### 4.6 Double case marking: an account for Split-S ergativity

In transitive sentences, V assigns accusative or partitive case to its complement at D-structure and T/M assigns nominative case to the external argument in spec(AGRP). The external argument is coindexed with agreement features in AGR<sup>0</sup>. Case assignment to arguments in this configuration satisfies both the requirements of the Case Filter and the requirement that Tense/Mood assign a nominative case feature as formalised in (16). In this section it is proposed that when an argument is base-generated internal to V' and is assigned objective case at D-structure, it may also receive a nominative case feature if there is no external argument available to receive nominative case marking at S-structure.

Recall the following sentence pair from a previous section:

50) Laukku tuo-tiin asema-lta  
 bag-nom bring-pass/past station-from  
 'The bag was brought home from the station'

51) Heidä-t tuo-tiin asema-lta  
 They-acc bring-pass/past station-from  
 'They (animate) were brought home from the station'

Contrary to standard analyses of passives and contrary to Burzio's Generalization, accusative case on the animate pronoun in (51) signals that the verb does not lose its ability to assign accusative case as a result of impersonal passive morphology. In sum, the Finnish data are difficult to account for within purely syntactic accounts in which certain verbs lose their ability to assign accusative case. Cross-linguistic data from various other languages in which 'passivised' elements remain in accusative case (e.g. Spanish) are equally problematic in light of Case Theory (Jaeggli 1986). Belletti (1988) and Lasnik (1992) dispute the hypothesis that passive morphology removes the verb's ability to assign structural Case, proposing instead that both passive verbs and copulae can be inherent case-assigners.

In his analysis of the double object construction in English, Larson (1988:360-1) suggests that V assigns both inherent and structural case simultaneously to its complement: inherent objective case is assigned by V (presumably at D-structure), while the complex INFL+V assigns both structural nominative and accusative case. Objects of transitive verbs are thus doubly case-marked [+ACC, +OBJ]. Ditransitives, on the other hand, 'separate out' the two types of case, so one argument receives structural accusative while one argument receives inherent objective case. One of the syntactic effects of passivization, he argues, is to suppress structural *or* inherent case assignment by V. Jaeggli (1986) also presents an analysis in which more than one abstract case can be assigned to an argument simultaneously.

We have seen that V in Finnish assigns both accusative and partitive case, and that T/M must assign a nominative case feature at S-structure. Following the proposals by Larson and Jaeggli, the case split in pronouns and full DPs in Finnish is argued to emerge as the result of double case-assignment of two cases features simultaneously to an argument. Double case-marking occurs when the verb fails to license an external argument coindexed with AGR. If no external argument is available in spec(AGRP) to receive the nominative case feature within the governing domain of T/M, movement of an argument to a position where it can be assigned nominative case is motivated by this requirement. If the only argument available is internal to VP and already case-marked with the assignment of aspectual roles at D-structure, then that element will be assigned structural case twice.

Suppose that, for one of the reasons (lexical or syntactic) discussed in Chapter 3, a verb  $\alpha$  has the following argument structure:

52)  $\alpha(x)$

In the case of passives, the verb takes two arguments, but the external argument has been internalised, yielding an argument structure  $\alpha(x,y)$ . In the case of unaccusatives and raising verbs, no external argument is licensed at the lexical level, i.e. the verb is a one-place predicate. In Chapter 3, it was proposed that external arguments are base-

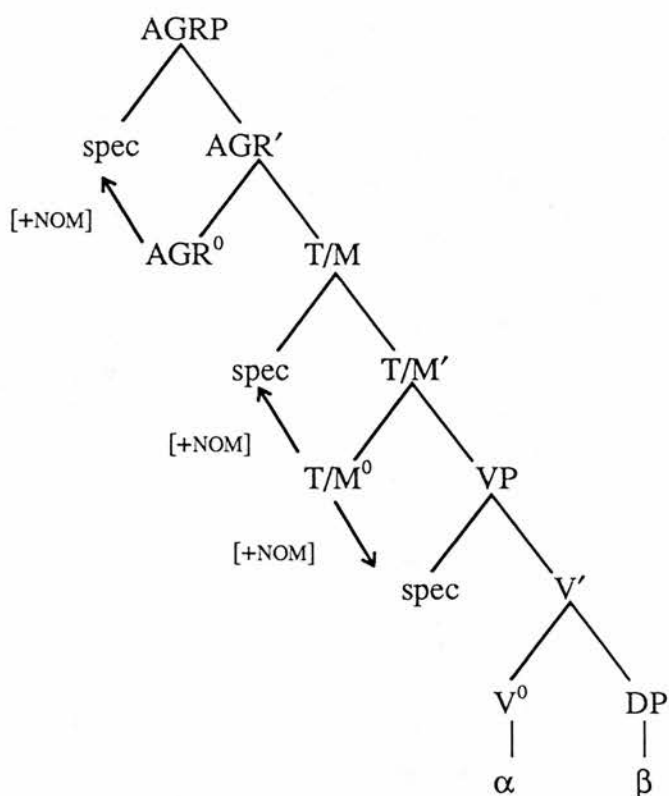
generated local to AGR if coindexed with it. In raising verbs and unaccusatives, no external argument is base-generated at all; in passives, the external argument is absorbed by the passive morphology and not realised at D-structure; and in imperatives, the external argument is rendered syntactically inactive by the presence of imperative mood.

In finite transitive or unergative sentences where external arguments are base-generated in spec(AGRP), T/M governs the subject in spec(AGRP) and assigns its nominative case feature under government. If Tense/Mood projects in the structure but no element is base-generated in spec(AGRP), then an element must move into the governing domain of Tense/Mood to be assigned nominative case. According to the definitions of government and i-command given previously, T/M or one of its coindexed traces formed by head movement governs the following positions: spec(AGRP), spec(T/MP), or spec(VP)<sup>21</sup>, so nominative case may be assigned to any of these positions. If the only available element is the internal argument  $\beta$ , it must raise to a position governed by Tense/Mood:

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<sup>21</sup> Larson (1988) also posits spec(VP) as a case-marked landing site for NP-movement in his analysis of English ditransitives; dative shift in his model occurs as the result of passive-like movement of one verbal complement from a non-Case-marked position internal to V' to the nearest Case-marked position, spec(VP). In the current model, spec(VP) is i-commanded (Koopman and Sportiche 1991) by Tense/Mood, and so is a nominative case-assigned position. The question of whether this position is spec(VP) or the specifier of the maximal projection of V will remain unresolved here.

53)

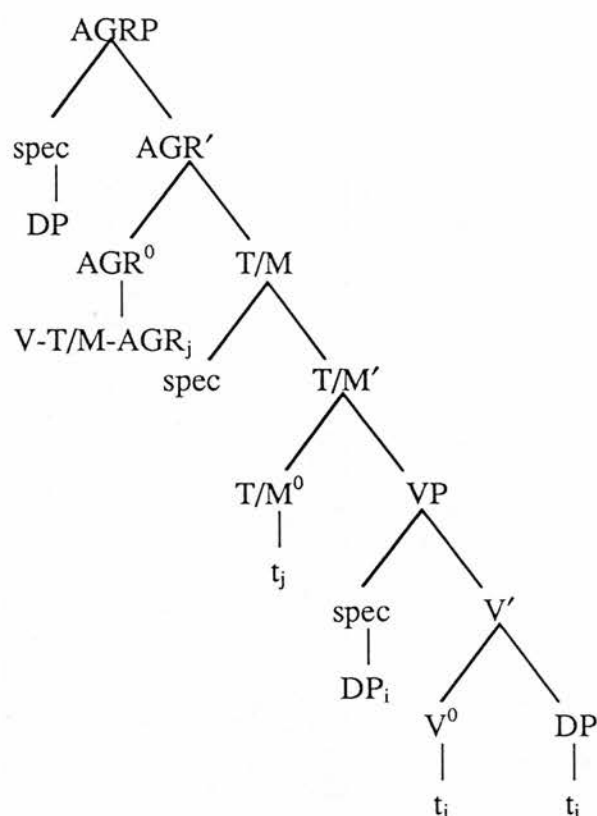


However, if  $\beta$  moves from where it is base-generated as complement of V, its trace is still governed by the trace of V at S-structure. The argument will end up with two case features, one assigned by V associated with aspectual roles assigned at D-structure (accusative), and the other assigned by Tense/Mood at S-structure (nominative).

Given that elements in all positions governed by Tense/Mood may be assigned nominative case, how is it possible to rule out a structure in a transitive sentence like (54), where the internal argument is doubly-case-assigned in spec(VP)?:



54)



The structure above turns out to be disallowed by the case-assigning properties of Tense/Mood. Recall the bi-uniqueness condition in (16) imposed by Tense/Mood: one argument must be assigned nominative case, but there is only one case feature to assign. If that feature is assigned to the internal argument rather than the external argument in a transitive sentence, then the external argument will violate the Case Filter and the derivation will fail, ruling out (54).

#### 4.6.1 Lexical Case Assignment

The notion that elements may receive two case features simultaneously is a powerful hypothesis. In particular, lexical case assignment must be taken into account in the model proposed here. Certain verbs in Finnish assign lexical case to their complements, e.g. *erikoistua*, 'to specialise (in)', which assigns illative case:

- 55) Isoäiti                      erikoistu-i                      kirjallisuute-en.  
 grandmother-nom specialise-past/3s literature-ill  
 'Grandmother specialised in literature'

In a passive sentence, where Tense/Mood does project, the illative complement must be able to satisfy the case-assigning requirement:

- 56) Kirjallisuut-en      erikoistu-taan.  
       literature-ill        specialise-pass  
       ‘Literature is being specialised in’ (or, ‘They are specialising in literature’)

In cases where an element receives both structural nominative and lexical case, lexical case assignment does not block the assignment of the nominative case feature, but overrides it in the morphology. This is accounted for by the postulation of morphological rules for case assignment, described in the next section.

Is double case assignment a freely-occurring process in the syntax? The grammaticality of (56) predicts that any additional complements governed by a verb such as *erikoistua* will not require nominative case, since the lexically-case-marked element will have both case features, [+ILL] and [+NOM]. The data do not, however, bear out this generalisation. Adverbial modifiers of duration, manner and measure in Finnish may receive case as arguments (these are discussed in section 4.7). A duration adverbial modifying a sentence such as (56) appears in nominative, rather than accusative, case:

- 57) a. Kirjallisuute-en      erikoistu-ttiin      vuosi.  
       literature-ill        specialise-pass/past      year-nom  
       ‘Literature was specialised in for a year’  
       b. \* Kirjallisuute-en      erikoistu-ttiin      vuode-n.  
       literature-ill        specialise-pass/past      year-acc

To account for such data, Maling (1993) proposes a Case-Tier, essentially a hierarchy of cases that are mapped onto caseless elements in a sentence according to grammatical function. The ILLATIVE element does not participate in the Case Tier since it is assigned case lexically. The next element in the GF hierarchy is the adverbial modifier, which receives the highest case [+NOM].

The current analysis so far does not rule out (57b), because the lexically case-marked element in (56) is assigned two case features and this should be possible in (57b) as well. However, within the current model for case-assignment, either the lexically-assigned argument or the adverbial modifier must be doubly-case-marked, since no external argument is licensed to receive nominative case. In order to rule out (57b), it is necessary to postulate a generalised constraint under which the assignment of two *grammatical* case features is preferred to the assignment of a lexical plus a grammatical case feature:

- 58) Assign second case feature to structurally case-marked elements before lexically-case marked elements.

In fact, such a rule may fall out of Maling's Case-Tier described in section 4.7 (Maling 1993:60):

- 59) a. NOM is assigned before ACC  
 b. only one XP can get assigned NOM, any remaining NPs get ACC  
 c. which XP gets NOM reflects the hierarchy of GFs, where  
     SUBJ > OBJ > MEASURE > DUR > FREQ

In Maling's model, lexically or semantically case-marked elements do not participate in the Case-Tier, so the Tier only accounts for the distribution of grammatical cases. However, given the requirement assumed in the current analysis that one nominative case feature must be assigned per finite sentence, operation of a Tier generates the correct results if lexically-assigned oblique roles are added to the bottom of the hierarchy:

- d. SUBJ > OBJ > MEASURE > DUR > FREQ > OBL

An element assigned an oblique role will therefore receive a nominative case feature only if no GFs higher in the hierarchy are available. Implementation of the hierarchy thus resolves possible conflicts as to which element receives nominative, and by extension double-case-marking, in a sentence where no external argument is coindexed with AGR. In Chapter 6 this modified case hierarchy is extended to neccessive constructions to account for case in sentences with genitive subjects.

#### 4.6.2 Morphological Rules for Case Assignment

In the syntactic framework adopted here, verbal inflectional affixes such as tense/mood and agreement project as functional heads in the syntax and combine according to the rules of X-bar theory. Moreover, inflectional affixes acquired as part of the functional lexicon have their own lexical entries encoding particular properties such as case-assignment and c-selectional requirements for building IP structure. This approach presupposes that inflectional morphemes behave similarly to contentives in the syntax, and are stored in a similar fashion in the lexicon.

This approach raises issues relating to inflectional morphology as a whole, in particular as to whether nominal inflectional morphology operates the same way. Since Finnish is an agglutinating language it might be possible to treat Finnish cases as heads, each with its own lexical entry and selectional requirements. Although related suggestions have been made for the semantic cases (Nikanne 1989, 1991 and 1993 links semantic cases (or Kases) with a nonovert prepositional head), it would be more difficult to posit lexical entries for the grammatical cases because nominative case is phonetically unrealised. Instead, it is assumed broadly following Anderson's Extended Word-and-Paradigm theory of morphology and Zwicky's (1986) approach<sup>22</sup> that case affixation is realised as the result of morphological rules that operate postlexically and postsyntactically, rather than as the result of word-formation processes within the lexicon. Such rules include featural specification for person, number and case, and yield surface forms such as:

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<sup>22</sup> As discussed in Spencer 1991.

- 60) a. 
$$\begin{array}{l} N^0 \\ [-pl] \\ [+/- \text{ pron}] \\ [+NOM] \end{array} \rightarrow /N^0/$$
- b. 
$$\begin{array}{l} N^0 \\ [+pl] \\ [+/- \text{ pron}] \\ [+NOM] \end{array} \rightarrow /N^0+-t/$$
- c. 
$$\begin{array}{l} N^0 \\ [+pl] \\ [- \text{ pron}] \\ [+GEN] \end{array} \rightarrow /N^0+-ITEN/$$

The phonological rules given above condition the realisation of (60a) the nominative case 'zero' form for full DPs and pronouns in transitives and unergatives, where a single [+NOM] feature is assigned; (60b) the nominative plural /-t/ form for both pronouns and full DPs; and (60c) the plural genitive case form /-ITEN/. However, these rules do not yield the correct forms for accusative pronouns, 'zero-accusatives' or partitive DPs. Milsark (1985) mentions the difficulty of positing a morphological case realisation rule to generate the *-n*/zero alternation for full DPs which is sensitive to the presence or absence of a syntactic subject.

The syntactic analysis posited earlier in this section provides a solution for morphological realisation: syntactic environments lacking a syntactic subjects are also those in which two case features get assigned to the internal argument. In order to account for the surface forms of doubly-case-marked elements, additional rules are posited which incorporate *two* case features. Two rules for pronouns and full DPs yield the accusative/zero-accusative case alternation:

- 61) a.  $N^0$   
 [+/-pl]  
 [+animate pron]  
 [+ACC]  
 [+NOM]  $\rightarrow /N^0+t/$
- b.  $N^0$   
 [-pl]  
 [-animate pron]  
 [+ACC]  
 [+NOM]  $\rightarrow /N^0/$

The rules in (61) ensure that doubly-casemarked nominative and accusative animate pronouns are realised with the /-t/ case morph, while full DPs and inanimate pronouns with the same case features are zero-marked. Moreover, a separate rule accounts for surface partitive case in elements doubly case-marked for both nominative and partitive:

- 62)  $N^0$   
 [+/-pl]  
 [+/-pron]  
 [+NOM]  
 [+PART]  $\rightarrow /N^0+TA/$

Rule (62) above ensures that the partitive case feature will 'override' a nominative case feature present in both DPs and pronouns.

Finally, a set of case realisation rules yield surface oblique case where a lexically case-marked oblique element also receives a nominative feature. One rule must be specified per oblique case, for example the inessive:

- 63)  $N^0$   
 [+/-pron]  
 [+NOM]  
 [+INESS]  $\rightarrow /N^0+SSA/$

In the literature there has been some disagreement as to the properties of the case/number affix *-t*, which appears on plurals in nominative and accusative case and on pronouns in accusative (and double ACC+NOM case in this model). In some previ-

ous work (e.g. the case assignment schema adopted by van Nes-Felius (1983) and Renault (1984); see (56) in Chapter 2) it has been assumed that the *-t* morph is triggered by a single feature which encompasses both animate pronouns and plurals. Vainikka (1989c) and Reime (1989,1993) both distinguish between the two *-t* affixes. The former argues that the pronominal *-t* is assigned lexically (presumably as the result of a combination of lexical pronominal and accusative case features) while the plural *-t* represents the nominative (unmarked/caseless) form in all contexts.<sup>23</sup> Reime assumes that plural and pronominal *-t*, while homophonous, are distinct in their feature composition. This debate brings to light the issue of the level of redundancy expressed by morphological case realisation rules.

Since the *-t* form for plurals has syncretised in the nominative and accusative but not in the other cases, it is assumed following Reime that pronouns and plurals do not share a single lexical feature that yields the *-t* affix. Instead, each morphological case realisation rule is assigned to carry binary feature values for [*+/- pron*] and [*+/- pl*] as well as features for grammatical case assignment. Two of the rules which produce affixation with *-t* are given in (60b) and (61a). These rules are repeated below as (64 a and b). The third rule required is given below as (64c):

- 64) a.  $N^0$   
       [+pl]       → / $N^0+t$ /  
       [+/- animate pron]  
       [+NOM]
- b.  $N^0$   
       [+/-pl]  
       [+ animate pron]  
       [+ACC]  
       [+NOM] → / $N^0+t$ /  
       [+ACC]
- c.  $N^0$   
       [+pl]  
       [- animate pron]  
       [+ACC] → / $N^0+t$ /  
       [+ACC]

<sup>23</sup> In Vainikka's model of case assignment, the genitive *-n* feature is assigned late in the derivation to the caseless nominative NP in complement position; if the nominative form is *-t* as a result of the plural feature, the *-n* affix is blocked and cannot appear.





66) Split-S in Finnish

|               |                |                |                     |
|---------------|----------------|----------------|---------------------|
| (unergatives) | S <sub>A</sub> | S <sub>O</sub> | (unaccusatives)     |
| nominative    |                |                | accusative pronouns |
|               | A              | O              |                     |

However, the situation in Finnish appears to be the reverse of that predicted by Dixon: personal pronouns receive accusative case marking rather than full DPs, despite the fact that they are higher in animacy. An explanation for this within the context of the animacy hierarchy may be related to morphological markedness. In an ergative language, DPs receiving ergative case are morphologically marked, while absolutive DPs are unmarked. In a nominative/accusative language, nominative DPs are unmarked, accusative DPs marked. A Split-S subsystem within a nominative/accusative language might therefore employ the more marked case form to signal the ergative function, in this case the accusative.<sup>25</sup>

The distribution of the partitive case versus the accusative and nominative in Finnish has been argued to conform to a Split-S or 'active' system by Moravcsik (1978) and Itkonen (1979). In section 4.4.2 an account for the accusative-partitive case alternation was proposed which linked the distribution of the two objective cases with the assignment of aspectual theta-roles at D-structure. This aspectually-based Split-S pattern closely resembles similar case systems noted by Mithun (1991), in particular for Mohawk, where subjects of intransitive sentences are case-marked as subjects or objects based on a distinction between state and event/activity/achievement (Aktionsart) (67a), or alternately, based on relative affectedness (67b) (data from Mithun 1991:532-3):

<sup>25</sup> Du Bois (1987), the main functionalist account of ergativity and ergative splits, remains agnostic as to what animacy hierarchies can predict in Split-S or 'active' systems. Further research in this extremely interesting area of study will hopefully reveal testable predictions for languages like Finnish.

- 67) a. kaht<sup>h</sup>tye?s            I (AGENT CASE) go away (often)  
       <sup>h</sup>kaht<sup>h</sup>:ti?            I (AGENT CASE) will go away  
       wakaht<sup>h</sup>tyu           I (PATIENT CASE) have gone away
- b. tkayé:ri                It's (AGENT CASE) right, correct  
       kará:k<sup>h</sup>               It's (AGENT CASE) white
- yóhteru               It's (PATIENT CASE) dangerous  
       yokà:rute?           It (PATIENT CASE) has a hole

The analysis proposed here for Finnish, then, might be extended to capture the data from languages like Mohawk: in unaccusative predicates, the internal argument is assigned an aspectual theta-role (or non-aspectual role) at D-structure; if no external argument is present, the argument is forced to raise to a higher functional projection associated with finite Tense, where it is assigned two cases simultaneously. The resulting surface case forms are realised with a distinct set of morphological rules for doubly-casemarked elements, which capture the relationship between syntactic environment (i.e. lack of a syntactic subject) and aspectual event structure in these languages.

In this section, case splits in Finnish are accounted for as the result of the simultaneous assignment of two grammatical case features (either [NOM+PART] or [NOM+ACC]) to a single internal argument. Double case-assignment is forced in sentences lacking an external argument by the requirement of Tense/Mood to assign a single nominative case feature. In the next sections, specific constructions are analysed where this phenomenon occurs.

#### 4.6.4 Impersonal passives

Given the proposed mechanism for double case-assignment, the case alternation between full DPs and animate pronouns can now be accounted for in various constructions where no external argument is coindexed with AGR. The first construction to be analysed is the impersonal passive.

Following observations by Perlmutter (1978) and Marantz (1984), impersonal passives are assumed to lack an external argument, so Tense/Mood is unable to assign its nomi-

native case feature to a subject in spec(AGRP). Evidence from the morphology of Finnish impersonal passives suggests that AGR hosts a default 3s marker. As discussed previously, impersonal passives in Finnish are formed with an affix -TAAN, which shows a past/nonpast Tense distinction via infixation:<sup>26</sup>

- 68) a. Kirje           ava-taan  
       letter-nom open-pass/np  
       ‘The letter is being opened’
- b. Kirje           ava-ttiin  
       letter-nom open-pass/past  
       ‘The letter was opened’

Under negation or when marked with a Mood affix, the morpheme -TAAN is clearly composed of two subparts, -TT(A) and -Vn:

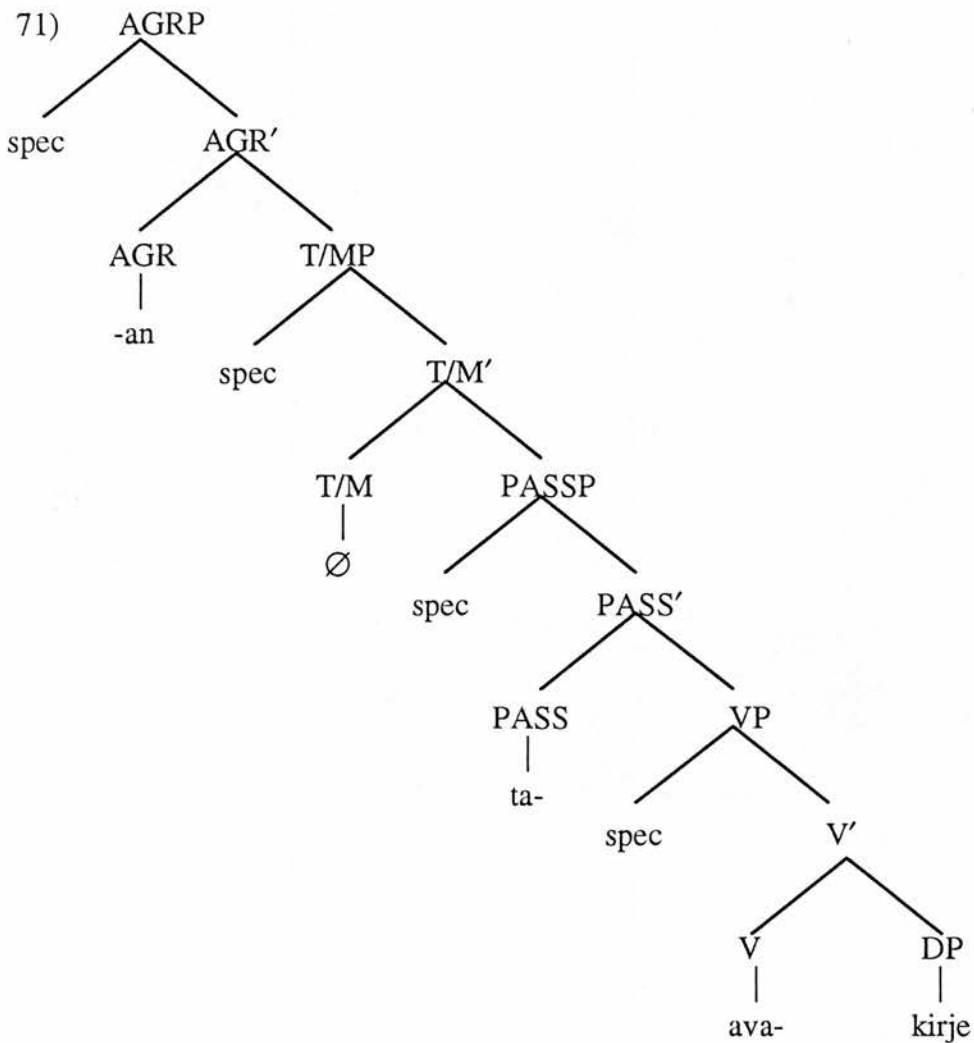
- 69) a. Kirje           ava-tta-isi-in.  
       letter-nom open-pass-cond-Vn  
       ‘The letter would be read’
- b. Kirje-ttä   e-i       ava-ta.  
       letter-part neg-3s open-pass  
       ‘The letter is not being opened’

In section 1.2.2 of Chapter 1 the -Vn affix in the impersonal passive was discussed as being diachronically derived from a third person possessive affix (Px). Unlike Px agreement in most nonfinite clauses, however, -Vn in impersonal passives does not signal agreement between V and one of its arguments; thus a plural DP fails to trigger any change in agreement morphology on the impersonal passive verbal stem:

- 70) Kirjee-t       ava-taan  
       letter-nom/pl open-pass/np  
       ‘The letters are being opened’

Given the lack of an external argument coindexed with agreement, the following D-structure representation is proposed for impersonal passives e.g. (70):

<sup>26</sup> The precise mechanism of infixation of the past tense marker -ii- into PASS and AGR remains unresolved.



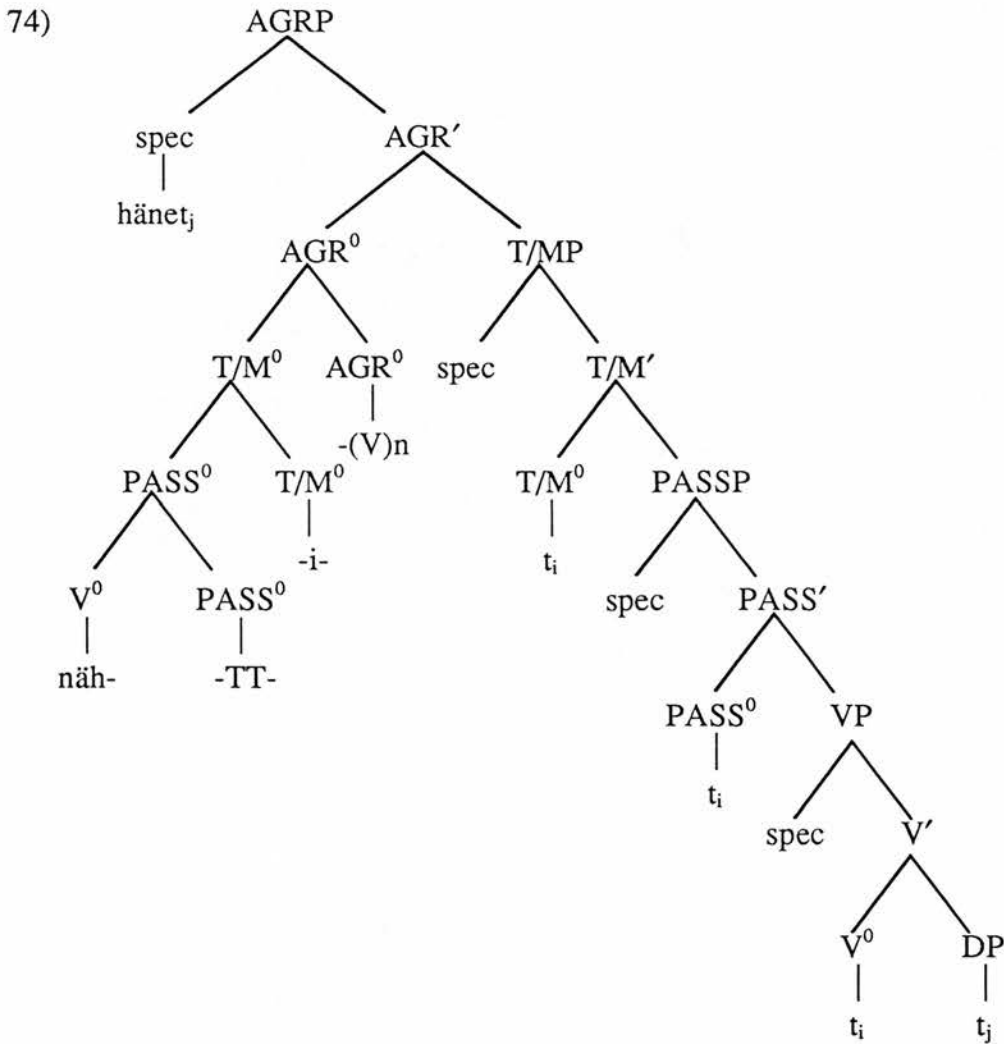
This structure yields  $\text{spec(AGRP)}$ ,  $\text{spec(T/MP)}$  and  $\text{spec(PASSP)}$  as positions governed or i-commanded by T/M, and therefore available landing sites for the internal argument. Doubly case-marked elements in impersonal passives may occur preverbally or postverbally, reflecting the possible positions for movement:

- 72) a. Kalakukko-a<sup>27</sup> syö-dään.  
 fish pie-part eat-pass/np  
 'Fish pie is being eaten'
- b. Syö-dään kalakukko-a.  
 eat-pass/np fish pie-part  
 'Fish pie is being eaten'

<sup>27</sup> Note that this sentence violates the case-assigning hypothesis of Belletti (1988), since V does not assign an 'existential' theta-role.

- 73) a. Näh-tiin          hänet/          mies.  
       see-pass/past   him/her-acc   man-nom  
       'S/he / the man was seen'
- b. Hänet/          mies          näh-tiin  
       him/her-acc   man-nom   see-pass/past  
       'S/he / the man was seen'

The suggested S-structural representation for (73b) above is given below:



In this sentence, the verb moves into PASS, T/M, and AGR to collect inflectional affixes and avoid a violation of the Stray Affix Filter (Baker 1988). No subject is base-generated in AGR because the passive morphology has absorbed the external argument. In order for nominative case to be assigned, the internal argument is forced to

move into a position where it can be governed by T/M,<sup>28</sup> in this case, spec(AGRP). Because it receives an aspectual theta-role from V, it is assigned accusative case. In spec(AGRP), the coindexed trace of the internal argument is still governed by the verb trace, and is interpreted as having an aspectual role. *Hänet* thus receives two case features, +NOM and +ACC, which are realised as accusative /-t/ by the appropriate morphological realisation rule.

From examples such as (70) it is clear that no agreement is triggered between AGR and the raised internal argument. However, if the two elements are in a spec-head relation, they must be coindexed (Cann 1993). Why does agreement morphology fail to be triggered? The answer to this question lies in the featural specification of the head AGR. AGR in impersonal passives is 'weak', devoid of  $\phi$ -features [AGR- $\phi$ ]. Coindexation between an element specified for  $\phi$ -features will result in a disjoint index, [+ $\phi$ , - $\phi$ ]. Since no entry in the agreement paradigm corresponds to such an index, the agreement morphology continues to reflect the default specification, which is homophonous to third person singular AGR.

#### 4.6.5 Unaccusatives

In section 2.1.2.2 unaccusatives (or 'existentials') were argued to license a single argument, which is base-generated internal to VP, and no agreement morphology is present:

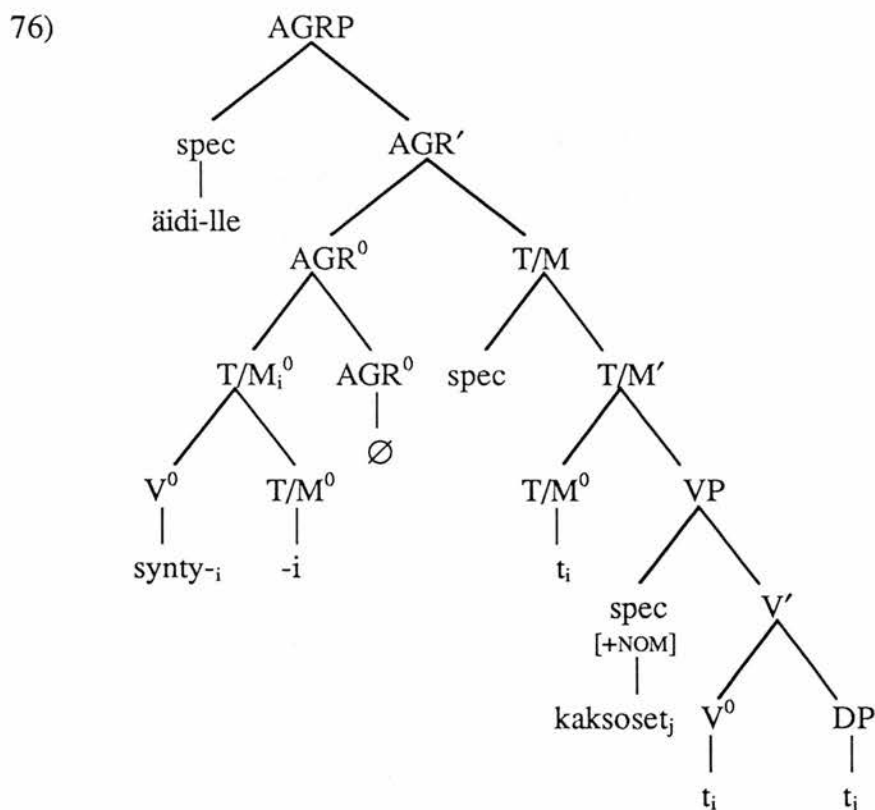
- 75) Aidi-lle    synty-i        kaksose-t.<sup>29</sup>  
       mother-to born-past-3s twins-pl/nom  
       'To the mother were born twins'

<sup>28</sup> Since the verbal complex undergoes head movement to AGR by S-structure, it is ambiguous from the ordering of elements at PF whether the internal argument is in spec(TP) or spec(PASSP). To a certain extent the issue is irrelevant, since in both positions nominative case gets assigned.

<sup>29</sup> Like Italian, Finnish also allows subject-verb inversion in unergatives as well as in transitive sentences. Vainikka (1989b:222-3) analyses this as rightward adjunction and notes that inverted subjects are stylistically marked.

In unaccusatives, as in impersonal passives, AGR is  $-\phi$ , which accounts for the lack of agreement morphology in (75). At D-structure, the single argument of an unaccusative verb is assumed to be base-generated internal to VP, with no external argument being licensed. Internal arguments of unaccusatives are assigned an aspectual theta-role at D-structure, yielding either a partitive or zero-accusative DP postverbally after double case assignment.<sup>30</sup>

Note that because the notion of i-command is being adopted, spec(VP) is a nominative case-marked position under T/M. Internal arguments in unaccusatives may use this position as a landing site, and receive double case-marking as in (74) above:



<sup>30</sup> As mentioned in section 2.1.2.1, partitive singular count nouns are unfelicitous in this sentence type. Vilkuna (1989) notes that 'subjects' of existentials in Finnish are aspectually 'less informative' than transitive objects or impersonal passive objects, and associates existential predicates with resultative aspect.



By allowing internal arguments to receive nominative case marking within VP, there is no need to account for postverbal nominative case assignment as an instance of case-transmission via coindexation of the internal argument with AGR (or an empty pronoun coindexed with AGR) as suggested in Chomsky (1981) and Burzio (1986). This approach allows an analysis that is more consistent with the Unaccusative Hypothesis: if a verb fails to license an external argument, then AGR lacks  $\phi$ -features as a result and cannot have the status of a pronoun or be active in the syntax as an argument. Rather, nominative case assignment to the internal argument is an indirect result of V failing to license an external argument.

#### 4.6.6 Copular constructions

Consider the following sentences involving locative phrases with copulae (data previously given in Chapter 3):

- 77) a. Koulu-ssa    on    uude-t    opettaja-t  
       school-in    is/3s   new-nom/pl   teacher-pl/nom  
       'The school has new teachers'
- b. Uude-t    opettaja-t    ovat koulu-ssa  
       new-nom/pl   teacher-pl/nom   is/3p   school-in  
       'The new teachers are at the school'
- c. \*Koulu-ssa    on    sinä / sinu-t  
       school-in    is/3s   you-nom / you-acc
- 78) a. Minu-lla    on    kynä.  
       I-adess    is/3s   pen-nom  
       'I have a pen'
- b. Minu-lla    on    sinu-t.  
       I-adess    is/3s   you-acc  
       'I have you'

Freeze (1992) presents persuasive cross-linguistic evidence that copular existentials (78a above) and possessive constructions (79) share identical structures. Moreover, he links the features [+/- HUMAN] of the possessor with alienable vs. inalienable posses-

sion; although it is not explicitly stated, this is presumably what results in the suspension of the Definiteness Effect in (78b). This hypothesis is adopted here for Finnish, though the details of his analysis are modified slightly. Following Belletti (1988) and Lasnik (1992), copulae, along with unaccusatives, are analysed as case-assigning verbs. Including possessive constructions with existentials is, however, problematic for Belletti's analysis: unaccusatives and copulae are posited as partitive (inherent), but not accusative case assigners, so (78b) should be ruled out. This is not a problem for the current analysis, however, since no real distinction is being made between inherent partitive and structural accusative case. Assuming that copular verbs in such constructions fail to license an external argument, it is also not surprising that agreement and word-order effects surface in copular predicates similar to those in unaccusatives (74). Both types of copular predicate are analysed as sharing the same structure as unaccusatives; the internal argument is also assumed to receive double case-marking in the same way as in unaccusatives.

#### 4.6.7 Imperatives

As described in previous sections of this thesis, imperatives occur with a special form for most inflectional affixes, including NEG (*äl-*), T/M (*-ko*), AUX (*ol-*), and AGR. Despite having a distinct paradigm of agreement markers, however, first and second person imperatives show split patterns of case along with verbs lacking external arguments. In section 3.4 in the previous chapter, the argument structure of imperatives was discussed. It was suggested that first and second person imperative mood in Finnish, like impersonal passive morphology, removes the external argument from the syntax.<sup>31</sup>

Morphophonological evidence from imperative 'agreement' markers suggests that they do not show the same properties as full inflectional AGR affixes. A noticeable feature

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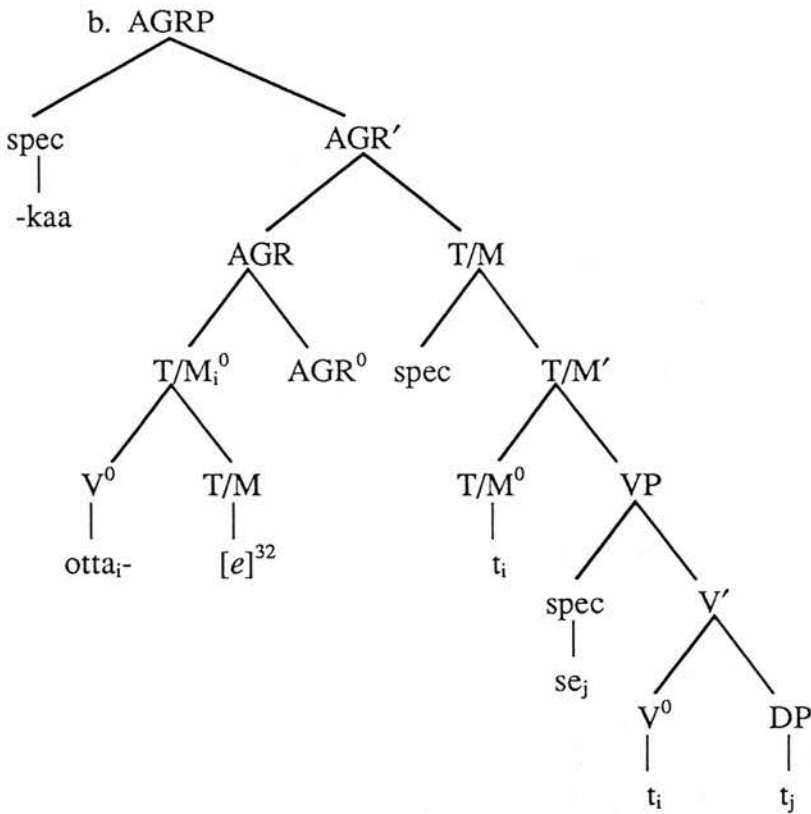
<sup>31</sup> Or perhaps more accurately, imperative subjects are so obviously recoverable from the discourse context that they become syntactically redundant.

of the imperative agreement paradigm is the failure of these elements to trigger consonant gradation in the preceding syllable:

- 79) 1s: (no form)  
 2s: Ota (sinä) se! 'Take (sg. addressee) it!'  
 3s: Otta-koon (hän) sen! 'Let him/her take it!'  
 1p: Otta-kaamme (me) se! 'Let us take it!'  
 2p: Otta-kaa (te) se! 'Take (pl. addressee) it!'  
 3p: Otta-koot (he) sen! 'Let them take it!'

Consonant gradation has been noted as one of the diagnostic features of inflectional affixes, as opposed to clitics (Pierrehumbert 1980, Nevis 1984, 1986, 1987, and Kanerva 1987). This paradigm of imperative 'agreement' markers show other features similar to clitics: they would violate no phonological rules of Finnish if they appeared as independent words, and they fail to affix to stem forms of lexical items. Given the ambiguous status of these elements between clitics and inflectional affixes, it is proposed here that these elements may be pronominal reflexes of external arguments but cannot head a projection of AGR; instead, they occur in specifier positions as non-heads. This notion is explored in greater detail in Chapter 5, where it is argued that possessive affixes (Pxes) also occur as specifiers rather than heads. Like Pxes, imperative 'agreement' markers are assumed to be category AGR, but are restricted in their distribution to specifier positions. In Chapter 5, a mechanism is outlined by which AGR in specifier positions unifies with the verbal compound:

- 80) a. Otta-kaa se!  
 take-2p it-nom  
 'Take (pl. addressee) it!'



In the analysis given above, the internal argument is assigned an aspectual or non-aspectual role within VP at D-structure. The AGR node is licensed by the agreement morpheme *-kaa* in its specifier position, but it is not coindexed with an overt external argument. Since *-kaa* is a bound morph, it must affix itself to a host stem or violate the Stray Affix filter, but once it has become attached to the verbal stem it is no longer available to receive the nominative case feature from T/M. The internal argument must move to the governing domain of T/M get assigned the case feature; the surface case of the doubly casemarked internal argument is realised via the relevant morphological rule.

Several apparent problems arise from the structure proposed here which are clarified in the next chapter. Firstly, according to the PFLP, the AGR head must be phonetically licensed at PF or the derivation will fail. Following Cann (1993), phonetically overt material in the specifier position of a head may also license the head. By a process which is fully described in Chapter 5, the agreement element *-kaa* cliticises onto the

<sup>32</sup> The phonetically unrealised imperative marker in this sentence is assumed to be an allomorph of the underspecified consonant in 2s imperatives, which downgrades the verbal stem.

host verb from spec(ASPP). This is possible because *-kaa* and ASP are coindexed via spec-head agreement.

The structure in (80b) above does account for the word-order restrictions involving overt subjects in imperatives, which may only occur unstressed postverbally:

- 81) a. Ota sinä laukku!  
       take you bag-nom  
       '*You* take the bag!'
- b. \*Sinä ota laukku!  
           you take bag-nom

Assuming that the 2s slot of the imperative agreement paradigm is phonetically empty but paradigmatically licensed, then the only available position for an overt subject is postverbally at S-structure because both spec(AGRP) and AGR are filled by morphological material. The assignment of nominative case to overt subject pronouns, however, remains unexplained in this model.

The problematic construction for this analysis is the third person imperative, the only imperative construction that can introduce an R-expression. Third person imperative verbs assign accusative, rather than nominative case to their objects:

- 82) Anta-koon Jorma kirjee-n äidi-lle!  
       give-imp/3s Jorma letter-acc mother-to  
       'Let Jorma give mother the letter!'

An analysis for this construction as a variety of transitive sentence is possible, given the differences in verbal semantics and argument structure between third person and other imperative forms. Third person imperatives signal optative rather than imperative Tense/Mood, and they may introduce an R-expression, unlike first and second person pronominal imperatives. However, the agreement morpheme in this construction is part of the same paradigm as the other imperative referent markers; it also fails to trigger consonant gradation. The current analysis predicts that the optative subject will be unavailable to receive the nominative case feature, forcing the internal argument to be

doubly case assigned and surface in zero-accusative case. The grammaticality of (82) is therefore not predicted, which is problematic for the current analysis as well as most analyses of case in Finnish.

#### 4.7 Case Assignment and Measure Phrases

Consider the following English sentences:

83) a. Louise weighed 50 kilos.

b. \*Louise weighed

84) a. The rain lasted an hour.

b. \*The rain lasted.

That the measure phrases in these examples are arguments rather than adverbial modifiers is evident from the ungrammaticality of the examples in (84b). In many languages, measure phrases in such sentences do not receive case, but are clearly part of the verb's theta-grid (perhaps receiving the role of quasi-argument). Adger (1994), based on data from Scottish Gaelic, argues that measure phrases are licensed by the Theta Criterion and coindexation with Tense/Aspect but not necessarily via the assignment of structural case.

In some languages, however, measure phrases show case-related effects similar to other arguments, and appear to be assigned structural case. Maling (1993) shows that in Finnish, as in Korean, measure phrases participate in the same case phenomena as full DP arguments, and are sensitive to a case hierarchy. Where the verb has a measure phrase as an internal argument, the measure phrase will receive accusative case as a singular DP:

85) Se        kest-i        vuo-den  
       it-nom last-past-3s year-acc  
       'It lasted a year'

Measure phrases may also appear as optional adverbial modifiers of duration, manner, and frequency. When no other overt argument is present, the measure phrase is assigned case as a full DP. Unlike in e.g. Scots Gaelic, measure phrases in Finnish appear to 'passivise', surfacing in nominative case in impersonal passives:

- 86) Juo-daan        koko    yö!  
       drink-pass/np whole night-nom  
       'Let's drink the whole night!'

Measure phrases surface in zero-accusative case in all expected sentence types, including imperatives and neccessive constructions:

- 87) Laula tunti!  
       sing hour-nom  
       'Sing for an hour!'
- 88) Sinu-n pitäisi kirjoitta-a kokonainen viikko.  
       you-gen should/3s write-inf whole week  
       'You should write the whole week'

However, interesting effects surface when an adverbial modifier co-occurs with a DP internal argument. Depending on the aspectual semantics of the predicate, an accusative adverb may co-occur with an accusative object (data from Maling 1993:57):

- 89) Liisa        muist-i                      matka-n vuode-n  
       Liisa-nom remember-past/3s trip-acc year-acc  
       'Liisa remembered the trip for a year'

But if no external argument is licensed by the main verb, the DP object appears in nominative case and the measure phrase in accusative case:

- 90) a. Muista        matka    vuode-n!  
       remember-imp trip-nom year-acc  
       'Remember the trip for a year!'
- b. Liisa-n täyty-y muista-a        matka    vuode-n.  
       Liisa-gen must-3s remember-inf trip-nom year-acc  
       'Liisa must remember the trip for a year'

When adverbials co-occur with DP arguments or multiple adverbial modifiers occur, Maling shows that elements receive case-marking according to a GF hierarchy, formalised as a Case-Tier (given previously as (58)). This predicts that the highest element in the hierarchy receives nominative case, while all others appear in accusative case. For instance, in an impersonal passive sentence where a duration adverbial co-occurs with a frequency phrase, the durative gets nominative case, regardless of the surface ordering of elements (data from Maling 1993:59):

- 91) a. Kekkose-en    luote-ttiin    yksi vuosi    yhde-n    kerran.  
       Kekkonen-ill   trust-past/pass   one year-nom   one-acc   time  
       ‘Kekkonen was trusted for one year once’
- b. Kekkose-en    luote-ttiin    yhde-n    kerran yksi    vuosi.  
       Kekkonen-ill   trust-past/pass   one-acc   time one    year-nom

The data bear out some important generalisations made earlier in this thesis. Firstly, they provide additional evidence that Burzio’s Generalization does not hold for Finnish, and that impersonal passives and other verbs lacking an external argument remain assigners of accusative case to elements within their governing domain. Secondly, they are predicted by the case-assigning property of Tense/Mood proposed in section 4.3.2:

- 92) Tense/Mood is a bi-unique case-assigner.

This requirement of T/M ensures that a single nominative case feature is assigned to some element in every finite clause. The data from adverbial modifiers support this hypothesis: as long as the requirement is minimally satisfied, all other elements can remain in situ within VP and receive accusative case under government. Maling’s hierarchy is adopted as a constraint on this principle.

Several problems remain for the current analysis. Evidence from adverbial modifiers shows that V can assign two aspectual theta-roles simultaneously and independently of each other:



- 93) Jorma rakast-i Tanja-a toise-n kerra-n.  
 Jorma-nom love-past/3s Tanja-part second-acc time-acc  
 'Jorma loved Tanja for the second time'

Assuming the adverbial modifier to be adjoined to VP somewhere within its governing domain, the question remains as to exactly how case gets assigned in such sentences.<sup>33</sup>

The other data difficult to account for within both the current analysis and Maling's (1993) analysis is adverbial modifiers of weather verbs. Since weather verbs are assumed to lack an external theta-role (Chomsky 1981:324 ff.), adverbial modifiers of these verbs are predicted to occur in surface nominative (or double NOM+ACC). Contrary to the prediction, modifiers of weather verbs appear in accusative case:

- 94) Tuul-i tunni-n  
 wind-past/3s hour-acc  
 'The wind blew for an hour'

The only way to account for these data in the current analysis is to postulate that weather verbs license *pro* rather than *PRO*. This hypothesis entails that the 3s agreement morphology in weather verbs contains  $\phi$ -features and that an 'ambient' external theta-role is licensed. The data from adverbial modifiers can therefore mostly, but not completely, be accounted for by appealing to the mechanism of double-case-assignment.

<sup>33</sup> Even more problematic is the issue of double-case-assignment in sentences with both an internal argument and an adverbial modifier (data from Maling 1993:58):

- i. Muistele matka-a vuosi!  
 remember-imp trip-part year-nom  
 'Remember the trip for a year!'

Even if such data were subject to a hierarchy whereby the adverbial modifier is assigned double case features before the verbal argument, there is no way to account for the surface word order, given that the modifier would have to raise to spec(VP) or higher to be within the governing domain of V. This problem will have to remain unresolved in the current analysis.

## 4.8 Conclusion

In this chapter, a syntactic account for Finnish is outlined in which the distribution of accusative, nominative, and partitive case is accounted for. In particular, the case splits described in Chapter 3 between accusative pronouns and nominative full DPs, and between nominative and partitive DPs, emerge as a morphological reflex of the phenomenon of double case assignment.

We have seen that a single lexically specified property of the functional head Tense/Mood motivates NP-movement in sentences where no external argument is available to receive this feature. Movement results in two case features being assigned to a single argument, objective case assigned by V in conjunction with theta-role assignment, and a structural feature assigned at S-structure by Tense/Mood. One of the conclusions drawn in this analysis is that nominative and objective abstract case differ in the ways in which they license arguments. Nominative case assignment in Finnish is associated with more general notions of grammatical function and licensing that become relevant only at S-structure. Accusative and partitive case, on the other hand, are much more closely connected with theta-role assignment and verbal semantics. Movement of internal arguments to receive nominative case features has no overt syntactic consequences: in particular, agreement is not triggered as the result of an internal argument moving into the governing domain of T/M. Rather, AGR encodes  $\phi$ -features of an external argument licensed at D-structure, and does not reflect spec-head relations resulting from movement later in the derivation. Returning to the issues raised by the discussion of mechanisms of case assignment under Case Theory in section 4.2, it is argued that in Finnish, nominative and objective case are not homogeneous abstract cases. Nominative case is assigned to heads of chains at S-structure, while objective case is assigned to chains at D-structure. However, both may be assigned *by* chains created by head movement of V into higher inflectional categories. This feature of case assignment allows nominative case to be assigned relatively freely within the structure.

## 5. Possessive Affixes

### 5.1 Introduction

#### 1) The Px paradigm

|     |                                    |                     |
|-----|------------------------------------|---------------------|
| 1s: | minun auto-ni <sup>1</sup>         | 'my car'            |
| 2s: | sinun auto-si                      | 'your (sg) car'     |
| 3:  | hänen/heidän auto-nsa <sup>2</sup> | 'her/his/their car' |
| 1p: | meidän auto-mme                    | 'our car'           |
| 2p: | teidän auto-nne                    | 'your (pl) car'     |

Possessive affixes (Pxes) in Finnish comprise a paradigm of morphemes which raise a number of interesting issues in morphology: they resemble pronominal clitics in their distribution and function as subjects and possessors, yet phonologically and morphologically they behave as word-internal, bound affixes. Pxes occur affixed to nouns, adjectives, and many non-finite constructions, preceding a clear class of clitics but following inflectional affixes in the ordering of morphs; examples are given below. Pxes may appear coreferential with pronouns (but not full DPs) in the genitive case, agreeing with an oblique subject or agent of a non-finite clause. This supports Comrie's hypothesis (discussed below) that Pxes are reduced forms of genitive pronouns. Like clitics, but unlike most inflectional affixes in Finnish, Pxes do not trigger consonant gradation in the preceding syllable. Furthermore, Pxes affix to the phrasal head only, without copying to mark modifiers; in this respect Pxes also share properties with clitics.

Despite these clitic-like features, Kanerva (1987) amply demonstrates clear semantic and morphophonological evidence that Pxes are word-internal and he draws particular attention to the difficulties in analysing Pxes. He argues against the previous hypotheses of Nevis (1984) and Pierrehumbert (1980) that Pxes are pronominal clitics rather

<sup>1</sup> The Px paradigm has two nonstandard Px allomorphs, *-in* which alternates with Px1s *-ni* and *-is*, which alternates with 2s *-si* (Nevis 1984:179).

<sup>2</sup> *-Vn* (a lengthening of the stem vowel plus *-n*) alternates with Px3 *-nsa/-nsä*, and is preferred following a vowel-final case-affix (Kanerva 1987:508).

than inflectional agreement affixes; if Px affixation is clearly a word-internal phenomenon, he suggests, then to analyse them as products of cliticization (which occurs late in the derivation, postlexically) would be to seriously undermine morphological integrity. His work, like much of the previous work on Finnish Pxes, uses a syntactic model which assumes the Lexicalist Hypothesis, in which a strict division is made between lexical and post-lexical (i.e. syntactic and morphological) processes. Within the current syntactic framework (Cann and Tait 1989, Tait and Cann 1990, Tait 1991, and Cann 1993), however, syntactic processes are *not* prohibited from occurring in the lexicon.

Given that these affixes perform a similar function to verbal agreement affixes yet are morphologically distinct from them, from the standpoint of acquisition the relationship between the two types of agreement morph in the lexicon and in the syntax is a relevant issue. It is argued in this chapter that the morphologically ambiguous status of Pxes, which behave simultaneously like clitics and affixes, reflects unusual properties at the syntactic level. In section 5.5.2 it is argued that both Pxes and verbal agreement affixes are acquired as part of the f-lexicon, specified as category AGR rather than N or V, and that their distinct selectional properties result in separate syntactic structures. Verbal agreement markers take Tense/Mood as a complement and function as heads, affixed to the verb via head movement in the usual way. Pxes, on the other hand, head their own projections but occur as specifiers of contentive heads, adjoining rather than rather than affixing to the host. The licensing of Pxes is discussed in section 5.5.5.

## 5.2 Px Distribution<sup>3</sup>

The distribution of Pxes is perhaps best defined in terms of that of verbal agreement affixes: the two are in complementary distribution, verbal agreement dominating Tense and Px agreement occurring with N, P, and a range of non-finite verbal contexts. The most notable feature of the distribution of Pxes is that they are triggered by animate pronouns only; full genitive DPs do not co-occur with Pxes. In this respect they differ markedly from verbal agreement markers, which may be coindexed with both pronouns and full NPs.

### 5.2.1 Possessor of noun

Pxes occur in DPs marking possession. The data below illustrate the distinctive properties of Pxes in the third, versus first and second persons:

- 2) a. Poika<sub>i</sub>      my-i              marsu-nsa<sub>i</sub>.  
       boy-nom    sell-past/3s    guinea pig-(acc<sup>4</sup>)-Px3  
       ‘The boy<sub>i</sub> sold his<sub>i</sub> guinea pig.’/  
       \*‘The boy<sub>i</sub> sold his<sub>j</sub> guinea pig’

<sup>3</sup>The description given above of the distribution of Pxes throughout the Finnish language applies only to standard written Finnish. In spoken Finnish Pxes are infrequent (with the possible exception of lexicalised contexts such as *tietääkseni*, ‘as far as I know’). Thus written Finnish (i) might occur as (ii) in spoken language:

- i. minu-n kissa-ni  
    my-gen cat-Px1s  
    ‘my cat’  
 ii. mun kissa  
    my-gen kissa  
    ‘my cat’

(*Mun* is the contracted form of *minun*, common to many dialects of spoken Finnish.) Although Vainikka (1989c) accounts for these facts by developing a separate syntactic analysis of spoken Finnish, the current analysis is restricted to written Finnish only.

<sup>4</sup> The affixation of Pxes to a stem already marked with genitive or accusative case causes truncation of the *-n* case affix due to phonological restrictions on certain consonant clusters (see Comrie 1980 for a discussion of the diachronic facts relating to this process of truncation). Where truncation of a case ending has occurred the case marking is glossed in parentheses.

- b. Poika<sub>i</sub>    my-i            häne-n<sub>j</sub>    marsu-nsa<sub>j</sub>.  
 boy-nom sell-past/3s his/her-gen guinea pig-(acc)-Px3  
 'The boy<sub>i</sub> sold his/her<sub>j</sub> guinea pig'
- c. Poika    my-i            marsu-ni  
 boy-nom sell-past/3s guinea pig-(acc)-Px1s  
 'The boy sold my guinea pig'
- d. Sijaa    vuotee-si!  
 make-imp bed-Px2s  
 'Make your bed!'

In (2a) above, the Px coreferential with a full DP outside the clause; it cannot be interpreted as pronominal. In (2b) the third person referent signalled by the Px is not coindexed with the main clause referent, but agrees with a genitive pronominal specifier clause-internally. Examples (2c) and (2d) illustrate the pronominal status of first and second person Pxes: no antecedent is required to bind the Px.

First and second person pronominal Px agreement can occur doubled with a coindexed genitive pronoun for emphasis:

- 3) Poika    my-i            minu-n    marsu-ni  
 boy-nom sell-past/3s my-gen    guinea pig-(acc)-Px1s  
 'The boy sold *my* guinea pig'

Deverbal nouns also host Px agreement, where the underlying subject is expressed by a Px:

- 4) Minä paheksu-n    juomis-ta-si  
 I disapprove-1s drink-part-Px2s  
 'I disapprove of your drinking'

Deverbal nouns such as *juomis* (from *juominen*) in (4) are derived in the (contentive) lexicon, displaying all the syntactic characteristics of full DPs. Finnish does however have a large number of complex nominalisations involving functional categories which are much more ambiguous in terms of major categorial status. These are discussed in a separate section below.

### 5.2.2 Modifier of postposition

Postpositions typically occur with genitive specifiers, which may trigger Px agreement if pronominal.

- 5) a. Voi-n näh-da sinu-t ikkuna-n läpi.  
 Can-I see-inf you-acc window-gen through  
 'I can see you through the window.'
- b. Me käv-i-mme ravintola-ssa Aili-n kanssa.  
 We-nom visit-past-1p restaurant-in Ail-gen with  
 'We visited a restaurant with Aili.'
- c. Aili käv-i ravintola-ssa (meidä-n) kanssa-mme.  
 Aili visit-past/3s restaurant-in (our-gen) with-Px1p  
 'Aili visited a restaurant with us.'

Px and genitive DP binding in postpositional phrases mirrors that of full DPs; third person Pxes are strictly anaphoric and first and second person Pxes can be pronominal.

### 5.2.3 Object of comparison and adverb

Certain nouns host Px agreement when they behave as objects of comparison in copular predicate constructions:

- 6) Sinu-n velje-si on vastakohta-si.  
 You(s)-gen brother-Px2s is/3s contrary-Px2s  
 'Your brother is contrary to you.'

Nevis (1984) argues that certain adjectives ending in the suffix *-nen* may host Pxes, but notes that such adjectives are arguably more noun-like than other adjectives in that they must govern a preceding DP, which is typically marked for genitive case (Nevis 1984:183-4):

- 7) karhu-n-näköinen  
 bear-gen-looking  
 'looking like a bear'

In ordinary adjectival phrases Pxes occur affixed to the head noun, not to the modifying adjective:

- 8) a. sinipunainen talo-mme  
       purple house-Px1p  
       ‘our purple house’
- b. \*sinipunaise-mme talo  
       purple-Px1p house

Nevis (1984:185) also notes that adverbial uses of *kaikki*, ‘all’, can take Px agreement, but finds no other examples of lexical adverbs which share this ability to host.

#### 5.2.4 Pxes in non-finite clauses

In certain non-finite clauses Pxes mark the agent or subject of the nominalised verb. These clauses comprise three main types distinguishable by their structural relation to the main clause: complement clauses are selected by a set of verbs of thinking, perception and speaking and alternate with finite clauses headed by the complementiser *että*, ‘that’. Temporal and *-kse-* clauses are adverbial adjuncts to a main clause. The constructions described below are also analysed in the chapter on non-finite clauses.

##### 5.2.4.1 Complement clauses

Complement clauses are selected by a set of verbs involving thinking and perception which also take CP complements headed by the complementiser *että*. Pxes and genitive pronouns in this construction may be anaphoric, coreferential with the main clause subject, or they can signal an independent lower clause subject:

- 9) a. Tiedä-t       ole-va-si       oikeassa  
       know-2s     be-ppc-Px2s   right  
       ‘You know that you are right’



- b. Matti tietä-ä sinu-n ole-va-n oikeassa  
 Matti know-3s you-gen be-pcp right  
 'Matti knows that you are right'

Full genitive DPs can also act as subjects of complement clauses, with no Px agreement:

- c. Luuli-n Soili-n syö-vä-n kakku-a  
 supposed-1s Soili-gen eat-pcp-acc cake-part  
 'I supposed Soili was eating the cake'

#### 5.2.4.2 Adverbial adjunct clauses

The two types of adverbial adjunct clauses described here, temporal clauses and *-kse-* clauses, can take pronominal Px agreement.

- 10) Tul-tua-an koti-in Maija huoma-si lahja-n.  
 Come-pcp-Px3s home-to Maija notice-past-3s gift-acc  
 'After coming home, Maija noticed the gift'

Pxes in temporal clauses can also be anaphoric. *-kse-* (purpose) clauses, however, can take only pronominal Px agreement. A Px must be affixed to the infinitival infix *-kse-*.

- 11) a. Minä ost-i-n jakoavaime-n korja-ta-kse-ni viemäri-n  
 I buy-past-1s wrench-acc repair-inf-kse-Px1s sink-acc  
 'I bought a wrench in order to repair the sink'

This rules out full DP agents, which fail to trigger Px agreement:

- b. \*Osti-n ruoka-a äidi-n keittä-ä-ksi keitto-a  
 bought-1s food-part mother-g cook-inf-ksi soup-part  
 'I bought food in order for mother to cook soup'

### 5.2.5 Agreement in the third person

Finnish third person agreement, in both finite verb inflection and Pxes, behaves markedly different from agreement in the first and second person. Finnish is a pro-drop language in that the subject pronoun can be omitted. In the third person, however, a definite personal pronoun cannot be dropped (in written language). If the verb appears without a subject pronoun, the reading is for a generic subject (discussed in section 3.2):

- 12) a. Usko-n, että hän on oikeassa  
 believe-I that he/she is right  
 'I believe that he/she is right'
- b. Hän usko-o, että...  
 He/she believes-3s that...  
 'He/she believes that they are right'
- c. Usko-o, että...  
 Believe-3s that...  
 'One believes that...'

As mentioned above, the Px system works closely with genitive pronouns. In formal Finnish, the first and second person Pxes can occur without an antecedent or genitive pronoun. The third person Px, however, must be coreferential with another NP in the sentence, either a clause-internal genitive DP or the (nominative) subject of the main clause.<sup>5</sup>

<sup>5</sup> Third person Pxes in nominalised clauses are not necessarily interpreted as bound with the local genitive DP antecedent (data from Leskinen 1969:432):

- i. Hän<sub>i</sub> luul-i melu-n kuulu-van auto-sta-an<sub>i</sub>.  
 S/he-nom suppose-past/3s noise-gen was heard-pcp car-from-Px3  
 'S/he supposed the noise was coming from his/her car'

Leskinen (1969) notes that in sentences such as (i) above, the Px can be interpreted as being coreferent with the third person genitive main clause subject rather than with the local genitive DP (i.e. the grammatical subject of the subordinate clause). This appears to be the result of an animacy effect; third person Pxes are interpreted as being bound to the highest available antecedent on the animacy hierarchy, if the context is otherwise ambiguous.

- 13) a. (Minu-n) kissa-ni on sairas.  
 my-g cat-Px1s is sick  
 'My cat is sick.'
- b. \*Kissa-nsa on sairas.  
 cat-Px3 is sick  
 'His/her cat is sick.'
- c. Mikko<sub>i</sub> antoi tytö-lle-en<sub>i</sub> lahja-n.  
 Mikko gave daughter-to-Px3 gift-acc  
 'Mikko<sub>i</sub> gave his<sub>i</sub> daughter a gift'

To avoid referential ambiguity in the third person, a genitive noun is required if the Px does not agree with the subject noun:

- 14) Mikko<sub>i</sub> antoi hänen<sub>j</sub> tytö-lle-en<sub>j</sub> lahja-n  
 Mikko gave his/her daughter-to-Px3 gift-acc  
 'Mikko<sub>i</sub> gave his/her<sub>j</sub> daughter a gift.'

Van Steenberg (1990) accounts for the data by proposing that third person genitive pronouns are pronominal and third person Pxes are anaphoric, bound locally with *pro*.

### 5.3 Px Morphology and Phonology

The agglutinative morphology of Finnish is such that a fairly straightforward distinction can be made between stems of contentive elements on the one hand and affixes on the other. Within the broad heading of 'affixes', however, are a class of inflectional suffixes (case, number, and agreement) and a class of clitics, both distinguishable by certain morphological and phonological properties described below. Pxes, however, present problems for traditional morphological classification; they share properties of both clitics and inflectional affixes, and are not easily classifiable as either.

Finnish sentential clitics include *-ko/-kö*, the question forming particle; *-kin*, 'also; too'; *-kaan/-kään*, 'neither'; and *-han/-hän* and *-pa*, which convey various pragmatic overtones.

- 15) a. Hän-hän tul-i huonee-seen.  
s/he-cl come-past/3s room-into  
'S/he *did* come into the room'<sup>6</sup>
- b. Hän-pä tul-i huonee-seen.  
s/he-cl come-past/3s room-into  
'S/he came into the room (sarcastic tone)'
- c. Tule-t-ko huonee-seen?  
come-2s-cl room-into  
'Are you coming into the room?'
- d. Minä-kin tul-i-n huonee-seen.  
I-cl come-past-1s room-into  
'I also came into the room'
- e. e-n minä-kään  
neg-1s I-cl  
'me neither'

All clitics in Finnish with the exception of -kin/-kaan are restricted to second (Wackernagel's) position (Wackernagel 1892)<sup>7</sup>. Finnish clitics affix to lexical forms rather than stems, and fail to trigger consonant gradation in the preceding syllable.

On the other hand, inflectional affixes, including case inflection, number, and verbal agreement, affix to stems rather than lexical forms, trigger consonant gradation in the preceding syllable when the syllable is closed (i.e. depending on the initial consonant of the affix), and occur in a wider distribution throughout the sentence than do clitics.

- 16) a. lapsi ~ lapse-t  
child children (nom/acc)
- b. matkusta-a ~ matkusta-vat  
travel-inf travel-3p  
'to travel' 'they travel'
- c. Lapse-t matkusta-vat auto-lla  
child-pl/nom travel-3p car-adess  
'The children are travelling by car'

<sup>6</sup> The translations of (a) and (b) are context-dependent; one possible translation is given.

<sup>7</sup> Cited in Trask (1993).

Finnish also has a set of clitic-like elements more closely resemble words than affixes. These comprise a host of 'semi-clitics', which include unstressed conjunctions and adverbs as well as the article *sitä* (Nevis 1987). From the phonological and morphological evidence it is clear that Pxes do not belong to this group, as they display strictly word-internal properties such as vowel harmony, a phenomenon common to both clitics<sup>8</sup> and inflectional affixes but which does not occur in compound word-formation and with certain derivational affixes.

- 17) a. (case) huonee-ssa                      järve-ssä  
           room-iness                         lake-iness  
           'in the room'                      'in the lake'
- b. (clitic) huone-han                    järvi-hän  
           room-cl                             lake-cl  
           'room' (new info)                'lake' (new info)
- c. metsä-kauris  
           forest goat  
           'roe deer'
- d. epä-usko  
           un-belief  
           'unbelief'

The linear ordering of morphemes in DPs further suggests that Pxes share properties of both clitics and inflectional affixes:

- 18) talo-ssa-ni-ko?  
       house-in-Px1s-qu  
       'In my house?'

In (19) above, the Px occurs between *-ssa*, the inessive case marker, and *-ko*, the question-forming sentential clitic in Finnish. Reflecting their status as elements which straddle the boundary between full inflection and clitics, Pxes occupy an intermediate slot in the morphological template.

<sup>8</sup> But not semi-clitics such as *sitä*, which are obligatorily unstressed words that do not show vowel harmony (Nevis 1987).

### 5.3.1 Clitic-like properties

Certain facts about the morphophonology of Pxes have led some authors (Pierrehumbert 1980 and Nevis 1984) to categorise them as clitics rather than affixes, in particular because of their failure to trigger consonant gradation.

#### 5.3.1.1 Consonant gradation

Unlike full inflectional elements in Finnish, Pxes do not trigger consonant gradation when their affixation closes the syllable, as e.g. locative case affixes do:

- 19) a. pöytä        'table'  
       b. pöydä-llä 'on the table'  
             table-adess  
       c. pöytä-kin 'the table, too'  
             table-too (cl)  
       d. pöytä-nsä 'his/her table'  
             table-Px3

Thus in (b) above, the *-t* in the nominal stem downgrades to *-d* as a result of case inflection affixed to the stem. In (c) the sentential clitic *-kin*, 'too', fails to cause downgrading in the previous consonant. Example (d) shows how Pxes also fail to trigger voicing of the stem consonant.

#### 5.3.1.2 Affixation to head

Nominal inflection for case and number shows concord so that modifiers agree with their head:

- 20) a. Iso-i-ssa valkois-i-ssa talo-i-ssa  
       big-pl-in white-pl-in house-pl-in  
       'In the big white houses'

Clitics, however, are hosted by the head only and are not copied to modifiers.

- b. Iso    valkoinen    talo-kin  
       big    white       house-too  
       'The big white house too'

In this respect Pxes behave like clitics, failing to copy to mark agreement with a head. They are hosted by the head only.

- c. iso,    valkoinen    talo-ni  
       big    white       house-Px1s  
       'my big white house'

Copying of Pxes in strictly ungrammatical:

- d. \*iso-ni valkoise-ni    talo-ni

This property of Pxes also highlights a parallel between Pxes and verbal AGR, since AGR marks only the verbal element in a clause and never affixes to modifiers such as adverbs.

### 5.3.2 Affix-like properties

Kanerva (1987) argues that Pxes are best analysed as affixes rather than clitics, and there is strong evidence that Pxes are word-internal, in contrast to sentential clitics.

#### 5.3.2.1 *Phonological evidence*

Nevis (1984:174) notes that the consonant clusters which appear affix-initially within the Px paradigm cannot occur word-initially in Finnish. No word exists in Finnish which begins with *nn-*, *ns-*, or *mm-*. The consonant clusters which can appear affix-initially in inflectional elements cannot occur word-initially either; for example, a word cannot begin with *ll-* in Finnish, though the adessive case ending is *-lla/-llä*. In contrast, the phonemes which comprise true clitics (including *-kin*, *-ko*, and *-han/hän*) can

and do appear word-initially, e.g. *kinkku*, 'ham'; *koko*, 'whole'; and *hanhi*, 'goose'. Furthermore, stress in polysyllabic Finnish words may not fall on a word-final syllable; syllables which immediately precede both Pxes and clitics may receive secondary stress, indicating that Pxes are word-internal for the application of stress rules.

Kanerva (1987) also presents evidence that Pxes prevent word-final phonological rules from applying to the stem. A rule which raises *i* to *e* and another which lengthens *e* to *ee* word-finally in certain stem forms fails to operate under clitic attachment but operates with Px affixation (Kanerva 1987:503-4):

- |        |                                   |    |                                 |
|--------|-----------------------------------|----|---------------------------------|
| 21) a. | <i>lapsi</i> 'child'              | b. | <i>herne</i> 'pea'              |
|        | <i>lapsi-kin</i> 'the child, too' |    | <i>herne-hän</i> 'pea' + clitic |
|        | <i>lapse-ni</i> 'my child'        |    | <i>hernee-si</i> 'your pea'     |

One rule which applies mainly between words is the phenomenon of boundary gemination in Finnish, in which morphological elements trigger gemination in the following word- or clitic-initial consonant. Case affixes fail to produce this effect, but clitics do trigger gemination; however, Pxes do not (Kanerva 1987:504-5):

- |     |                                    |                           |
|-----|------------------------------------|---------------------------|
| 22) | <i>itse</i>                        | 'self'                    |
|     | <i>itse-näinen</i>                 | 'independent'             |
|     | <i>itse-nä-än</i>                  | 'self'+essive case+Px3    |
|     | <i>itse-ni</i>                     | 'myself' ('self'+Px1s)    |
|     | <i>itse[k]-kin</i>                 | 'self' + clitic           |
|     | He <i>itse[n]</i> <i>nauroivat</i> | 'they themselves laughed' |

The bulk of the facts from phonology, then, indicate that for the application of most rules Pxes are word-internal (i.e. affixal), with the notable exception of the rule of consonant gradation.

### 5.3.2.2 Affixation to stem

Unlike sentential clitics Pxes do not affix themselves to lexical forms, but require a stem form for affixation to take place:



23) *perhonen* 'butterfly'

*perhose-n* 'butterfly's'  
butterfly-gen

*perhonen-kin* 'the butterfly, too'  
butterfly-cl

*perhose-si* 'your butterfly'  
butterfly-Px2s

In the example above, the genitive case marker *-n* affixes to a stem form of the noun *perhonen*, while the clitic *-kin* cliticises to the lexical (nominative) form of the noun. In this respect Pxes are subject to the same rules of affixation as inflectional affixes.

### 5.3.3 Diachronic evidence for the status of Pxes

Within the Uralic language group there are several ordering schemata for the affixation of grammatical case, semantic case, number, and possessive affixes (which in many cases are absent or vestigial). Comrie (1980) proposes that the original order for these elements in Common Uralic was [stem-]number-case-possessive affix, and that the varied order in the modern Uralic family is due to the separation of case suffixes and postpositions as well as phonological reductions of grammatical case leading to inflectional ambiguity. Written Finnish is perhaps the most conservative of all the Uralic languages in that it retains the full paradigm of possessive affixes and the old Uralic affix ordering.

Several basic concepts form the theoretical core of Comrie's analysis. The first is that when a separate word is reduced to an affix, it will occupy the most peripheral 'slot' in the morphology; therefore the relative ordering of a series of affixes reflects the order that the affixes developed from separate words. The next principle involves the addition of new locative cases to the inflectional paradigm. If a language has a set of older cases which precede a paradigm of possessive affixes, and then acquires new cases (in the case of the Finno-Ugric languages the locative cases were often reduced forms of postpositions, added to the set of case affixes gradually over time), the new case af-

fixes will either assume the most peripheral position in the affix sequence or be 'drawn' to the position of the old cases. In this sense locative cases do not necessarily reflect the order of addition to the semantic case system.

The third relevant principle is that of the phonological reduction of case affixes. If a case affix precedes a possessive affix which undergoes a phonetic change, the resulting consonant cluster may be phonologically unacceptable or awkward, e.g. the genitive/accusative *-n* affix in Finnish cannot occur before *Pxes* because of the awkwardness of the resulting consonant cluster:

- 24) kirjee-\*n-mme  
 letter-acc/gen-Px1p  
 'our letter (acc/gen)'

To accomodate this the case affix is deleted, resulting in a certain level of ambiguity. From these principles Comrie proposes that proto-Uralic acquired the *Px* paradigm as a set of reduced genitive pronouns at some very ancient period. They were acquired after a number morpheme was fixed in the morphology to follow the noun stem and after a set of 'old' cases affixed following the number marker. Finnish later acquired additional locative cases from reduced postpositions, which affixed themselves in the same position as the old (probably grammatical) cases. Thus Finnish retained the original ordering of number-case-*Px* while other Uralic languages developed other ordering systems according to the principles described above. Finnish also retained the entire paradigm of *Pxes* while in other languages, for example Lapp and Estonian, the *Pxes* have been restricted in use or lost altogether.

The relatively late acquisition of the possessive affixes into the system of 'inflectional' morphology, subsequent to genuine inflection, may provide an explanation for the unique syntactic and morphophonological nature of the *Pxes* and their linear ordering which is in apparent violation of the Baker's Mirror Principle (Spencer 1992).

#### 5.4 Previous analyses of Finnish Pxes

Two main points of view emerge from the existing literature on the topic of Finnish Pxes. While most if not all authors acknowledge that Pxes occupy an ambiguous position in Finnish morphology, most have argued either that Pxes are inflectional [i.e. agreement] affixes (Kanerva 1987), anaphoric reflexes of genitive pronouns (Nevis 1984, 1986 and 1987, van Steenbergen 1990, Vainikka 1989c), or that Pxes are independent syntactic units, effectively allomorphs of full pronouns which cliticize rather than affix to the host (Pierrehumbert 1980) and have status as arguments (Trosterud 1993). One of the main difficulties reflected in the literature in determining whether Pxes are anaphoric or pronominal is the paradigm split between third person Pxes, which appear to be straightforwardly anaphoric according to most definitions of Binding, and first and second person Pxes, which can be pronominal.

Pierrehumbert (1980) explains the distribution of Pxes by positing them as clitic allomorphs of the reflexive pronoun *itse*, noting that Pxes and *itse* are in complementary distribution in specifier positions (data from Pierrehumbert 1980:609):

- 25) a. Hän on ylpeä itse-stä-än.  
       S/he is proud self-ela-Px3  
       'S/he is proud of him/herself'
- b. \*Jorma tuli itse-nsä auto-lla  
       Jorma came self-Px3 car-by  
       'Jorma came in his own car'

She suggests that an allomorphy rule operates in Finnish which generates a Px clitic as the weak form of reflexive pronouns in specifier positions, then posits additional rules which produce cliticization of the Px to the head noun as well as optional doubling of a Px with a genitive specifier.

Nevis (1984, 1986 and 1987) subsumes Pxes under a broad class of clitics, but distinguishes between Finnish particle clitics, which he classifies as bound words, and possessive affixes, which he categorises as phrasal affixes. He demonstrates that Pxes are syntactic affixed units but not inflectional (i.e. agreement), and that they are anaphoric. To account for the syntactic properties of Pxes he assumes that Pxes are allomorphs of genitive pronouns (contra Pierrehumbert 1980) which cliticize onto the head noun from the specifier position of a node immediately dominating VP; in the case of third person Pxes he proposes movement of the Px allomorph, and to account for 'doubling' in the first and second person paradigm slot he suggests a copying rule whereby person and number features are copied from genitive pronoun to the clitic in its specifier position. Nevis argues that these rules are ordered (copying then movement) to prevent the copying of coreferent third person pronouns. Finally, Nevis posits a final rule of 'free deletion' of first and second person genitive pronouns.

Vainikka (1989c) suggests that verbal agreement in Finnish is a type of anaphoric pronoun, and accounts for pro-drop patterns in terms of anaphoric binding, an analysis she extends to account for Px patterns. Van Steenbergen (1990) assumes that Pxes are strictly anaphoric agreement reflexes, positing a local empty genitive binder in cases where Pxes appear to be coreferential with elements outside the clause.

Arguing at length against Nevis' hypothesis that Pxes are clitics in favour of an analysis as true inflectional affixes, Kanerva (1987) states that to categorise Pxes as clitics pro-

nouns, and therefore as word-external (syntactic) units, would be to undermine crucial notions of morphological intergity, since Pxes show so many more features of word-internal elements than do clitics. These affix-like properties which form the core of Kanerva's arguments include evidence from the ordering of morphs in the structural template; they are affixed to stems rather than lexical forms and phonological evidence that Pxes prevent word-final rules from applying to the preceding stem and that the failure to trigger consonant gradation is an insufficient criterion for clitic-hood. Furthermore he gives evidence of morphosyntactic dependencies involving Pxes; the reflexive pronoun *itse* requires pronominal Px agreement in all cases except the nominative, where it cannot co-occur.

Kanerva's position, that morphologically bound elements which are relevant to the syntax (since they behave as subjects, bound anaphors and possessors) and simultaneously participate in word-internal morphological and phonological processes should be analysed as inflectional suffixes and not clitics, essentially presupposes the existence of an independent module for morphology, or at least assumes some version of the Lexicalist Hypothesis (Chomsky 1970, Jackendoff 1972). In the syntactic model which forms the theoretical basis for the current work, inflectional morphology is assumed to be a syntactic process, following Baker (1988) and subsequent work. In recent syntactic literature, the notion that inflectional morphemes such as agreement may be 'active in the syntax' (e.g. encode  $\phi$ -features coindexed with a verbal argument) and still participate in morphological and phonological processes is no longer considered to be as problematic as it was.<sup>9</sup>

Trosterud (1993) acknowledges that Pxes have the phonological and morphological characteristics of affixes rather than clitics, but argues that in determining whether Pxes are agreement markers or anaphoric pronouns the main issue is the status of Pxes as arguments. In determining the status of Finnish Pxes he assumes Borer's (1984) analysis, who notes a distinction between clitics and argument suffixes in languages such as Hebrew, which absorb Case assigned by the noun and need a dummy (genitive) case

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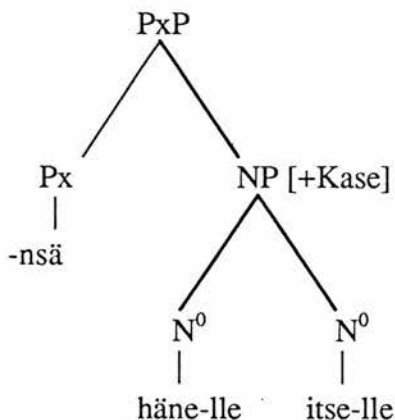
<sup>9</sup> Though some morphological data may be seen as evidence that Baker's hypothesis, particularly the Mirror Principle, is not particularly robust (Spencer 1992).

assigning element to assign case in doubled constructions, and inflectional affixes in Hungarian and Eskimo which do not get Case (as evidenced by the fact that the doubled pronoun in these languages does not require an additional case assigner). Trosterud observes that the Finnish data is problematic from this perspective because both types of case-marking pattern are present. In the case of genitive full DPs with zero Px reflexes there is a single case-assignee, the genitive DP. In doubled constructions, when Pxes co-occur with genitive pronouns, there are two elements which require case. Trosterud concludes that Finnish is a language like Hebrew where possessive affixes are assigned case, i.e. have argument status, and that doubling in Finnish is an (unexplained) idiosyncrasy of personal pronouns.

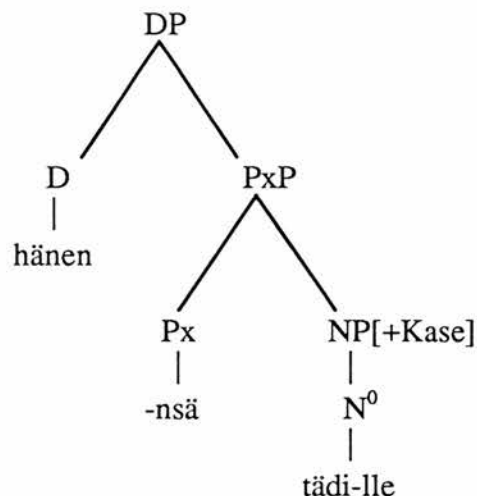
Trosterud further argues that Pxes are functional heads which select N as a complement. Given the following sentences (from Trosterud 1993:231), Trosterud argues that the phrase structure representation of the two PPs are as illustrated in (28) below:

- 26) a. Osoita-n Maija-n<sub>i</sub> häne-lle itse-lle-nsä<sub>i/\*k</sub>  
 show-1s Maija-acc s/he-to self-to-Px3  
 'I show Maija to herself'
- b. Osoita-n Maija-n<sub>i</sub> häne-n tädi-lle-nsä<sub>i/k</sub>  
 show-1s Maija-acc s/he-gen aunt-to-Px3  
 'I show Maija to her aunt'

- 27) a. häne-lle itse-lle-nsä



- b. hänen tädi-lle-nsä



If a Px dominates the entire structure, then the phrase is anaphoric; if DP dominates, then the structure is pronominal and does not need to be bound to another element. The most relevant theme in Trosterud's analysis for the current work is that Pxes head NPs. It is argued in the next section that the distribution patterns of Pxes can be better accounted for by analysing them as specifiers.

## **5.5 *The Syntax of Pxes***

Within the syntactic framework proposed by Tait and Cann (1990), Cann and Tait (1992), and Cann (1993), an account of the mixed affix/clitic-like properties of Pxes is put forward which subsumes both Pxes and verbal agreement markers under the functional category AGREEMENT, the distribution of which is determined as a result of the differing selectional properties of the two functional heads. Notions of licensing and coindexation inherent in the theoretical framework adopted here make redundant to a certain extent the debate regarding the nature of Pxes as anaphoric pronouns or inflectional affixes. It is argued in this section that although Pxes have status as arguments and head their own maximal projections (PxPs), they are not functional heads in the extended projection of contentive elements because they do not select complements. Instead, it is proposed that they alternate with verbal agreement but are restricted in distribution to specifier positions only.

### **5.5.1 Pxes are category AGR**

Pxes have been interpreted as an instantiation of syntactic AGR in previous work: Reime (1989, 1993) assumes that Pxes do not project independently in the syntax but are present as a feature [+AGR], associated with category N. Ouhalla (1991) suggests that in Hungarian and Turkish, both languages where a paradigm of possessive affixes alternates with verbal agreement in nominalised constructions, these elements project in the syntax as nominal AGR. Ouhalla argues that the functional head AGR is not specified for category (1991:324), and accounts for the distribution of possessive affixes versus verbal agreement in languages like Turkish and Hungarian by distinguishing between verbal AGR, which co-occurs with the element Tense, and nominal AGR,



which does not. The major category of the structure headed by AGR is thus determined by N (nominal) and TNS (verbal).

The basic notions inherent in Ouhalla's hypothesis that AGR elements are unspecified for major category are adopted here on the strength of his arguments for Hungarian and Turkish. However, it will emerge that the two types of AGR in Finnish do not share structural properties to the extent that Ouhalla proposes.

Additional evidence for the hypothesis that Pxes are a variation of verbal agreement can be gleaned from the morphology of the Px paradigm, the behaviour of Pxes with regard to pro-drop, and finally, diachronic evidence involving impersonal passives. In each of these respects Pxes pattern closely with verbal AGR.

#### 5.5.1.1 *Paradigmatic parallels*

Paradigmatically, Pxes and verbal agreement can be shown to have strong parallels. The first person singular forms are extremely similar, and the first person plural forms are identical.

##### 28) Possessive affix (Px) paradigm (with genitive pronouns)

|         |                   |   |
|---------|-------------------|---|
| minu-n  | -ni               | 1 singular                                    |
| sinu-n  | -si               | 2 singular                                    |
| häne-n  | -nsa, -Vn<br>/nsä | 3 singular (Vn=lengthening of previous vowel) |
| meidä-n | -mme              | 1 plural                                      |
| teidä-n | -nne              | 2 plural                                      |
| heidä-n | -nsa, -Vn<br>/nsä | 3 plural (Vn=lengthening of previous vowel)   |

##### 29) Verbal AGR paradigm (with nominative pronouns)

|        |      |  |
|--------|------|--|
| minä   | -n   | 1 singular                                   |
| sinä   | -t   | 2 singular                                   |
| hän/se | -V   | 3 singular (V=lengthening of previous vowel) |
| me     | -mme | 1 plural                                     |
| te     | -tte | 2 plural                                     |
| he     | -vat | 3 plural                                     |



The paradigmatic similarities between Pxes and verbal agreement is to a certain extent predicted by the extreme likelihood that Pxes are historically reduced genitive pronouns (Comrie 1980). Both paradigms show a marked correlation in surface form between pronouns on the one hand and the corresponding agreement reflex on the other. In contrast, the affixes which mark person and number in the imperative mood (interpreted as verbal AGR in Mitchell 1991a) show no such obvious morphological correlation between agreement marker and nominative pronoun:

### 30) Imperative "AGR"

|                  |                 |            |
|------------------|-----------------|------------|
| (no form)        |                 | 1 singular |
| sinä             | *k/glottal stop | 2 singular |
| hän              | -koon/köön      | 3 singular |
| me <sup>10</sup> | -kaamme/käämme  | 1 plural   |
| te               | -kaa/kää        | 2 plural   |
| he               | -koot/kööt      | 3 plural   |

With the exception of the first person plural paradigm slot, the imperative referent markers for person and number are not morphologically similar to nominative pronouns.

#### 5.5.1.2 *Pro-drop parallels*

There are interesting similarities between verbal AGR and Pxes in the third person slot in the paradigm. In finite sentences, all pronouns can be omitted except for those in the third person, which can only be omitted for a generic, rather than pronominal, reading with certain verbs (generally modals):

- 31) a. Voi-n men-nä ulos  
       can-1s go-inf out  
       'I can go out'

<sup>10</sup> According to one informant, a pronoun here is grammatical but pretentious in style.

- b. Voi men-nä ulos  
 can-3s go-inf out  
 'One can go out'/  
 \*'He/she can go out'
- c. \*Voi-vat mennä ulos  
 can-3p go-inf out  
 'They can go out'

Similarly, first and second person Pxes can occur as pronominal possessors:

- 32) Kissa-ni kuol-i  
 cat-Px1s die-past/3s  
 'my cat died'

But third person Pxes, at least, appear to be strictly anaphoric, and must be coreferential with third person pronouns:

- 33) a. Pekka my-i kissa-nsa  
 Pekka sell-past3s cat-Px3  
 'Pekka<sub>i</sub> sold his<sub>i</sub> cat'/  
 \*'Pekka<sub>i</sub> sold his/her<sub>j</sub> cat'
- b. \*Kissa-nsa oli sairas  
 cat-Px3 was ill  
 'His/her/their cat was ill'
- c. Asta sano-i ole-va-nsa sairas  
 Asta say-past/3s be-ppc-Px3 ill  
 'Asta<sub>i</sub> said that she<sub>i</sub> was ill'/  
 \*'Asta<sub>i</sub> said that he/she<sub>j</sub> was ill'

### 5.5.1.3 Pxes and negation

One more piece of evidence is available in support of the hypothesis that Pxes and AGR share the same (functional) category. In Chapter 1 the following data was presented relevant to the structure of the Finnish IP. In negated sentences, the agreement morpheme appears on the semi-verbal negation prefix *e-* rather than on the verb:

- 34) a. Nuku-tte  
 sleep-2p  
 'You're sleeping'
- b. E-tte nuku  
 neg-2p sleep  
 'You (pl) won't sleep'

A similar phenomenon occurs when impersonal passives are negated. A third person singular affix *-i* appears on the negation stem, while the final *-Vn* affix disappears from the impersonal passive verbal morphology:

- 35) a. Ikkuna           ava-taan  
 window-nom open-pass  
 'The window is being opened'
- b. Ikkuna-a       e-i       ava-ta  
 window-part neg-3s open-pass  
 'The window is not being opened'

Hakulinen (1946/1961:157) interprets the *-Vn* affix in impersonal passives as historically a Px. Although the morph is clearly no longer productive, the fact that it occurs in complementary distribution in negated impersonal passives suggests that, in older forms of Finnish at least, Pxes were equivalent to verbal AGR in syntactic negation.

### 5.5.2 AGR in the functional lexicon

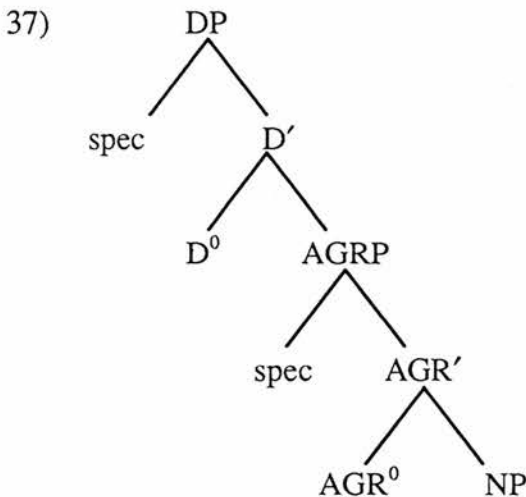
Ouhalla (1991) proposes a parameter-based syntactic model in which functional heads (e.g. Tense, Aspect, Negation, Determiner and Agreement) determine key aspects of language variation. One of the interesting theoretical features of this model is the categorical underspecification of the functional element AGR, which, it is argued, can co-occur with both nominal and verbal elements. This hypothesis, supported by copious cross-linguistic evidence, follows from general observations about the structural parallels between S and DP. Furthermore, parameters are posited which account for the relative distribution of the functional heads TNS and (verbal) AGR on the one hand and DET and (nominal) AGR on the other. If Ouhalla's analysis were to be adopted

here, Finnish NPs would share parameter settings with languages like Turkish. Turkish possessive affixes co-occur with determiners, unlike in English; this is accounted for as a cross-linguistic parameter which specifies that DET c-selects AGR (Ouhalla 1991:337). Finnish Pxes also co-occur with determiners; Finnish lacks articles, but evidence is available from demonstratives such as *tämä*, 'that':

- 36) *Tämä talo-ni*  
       this house-Px1s  
       'This house of mine'

Furthermore, like Turkish, Finnish possessive affixes are associated with specifiers in genitive rather than nominative case, as is the situation in Hungarian. Ouhalla posits a case-assigning parameter of AGR to account for this.

In Ouhalla's model, AGR is a functional head in the binary branching tree structure of the noun phrase, c-selected by DET as determined by parameter setting in languages like Finnish and taking N as a complement:



Trosterud (1993) also posits Px as a functional projection heading noun phrases, as illustrated in (28). However, there is strong evidence to suggest that although Pxes share (functional) categorial status with verbal AGR, the two variants do not share the same properties of headedness: while finite AGR with Tense is part of the extended

projection of V, Px AGR may head its own projection but crucially does not head N and P in the same way that inflectional elements head V.

### 5.5.3 Pxes are non-heads

Cann (1993:6) discusses the various traditional criteria in determining the status as a head of a given constituent, summarising them as listed below:

- 38) a.  $X^0$  is obligatory.  
 b.  $X^0$  and  $X''$  have the same general distribution.  
 c.  $X^0$  forms the morphosyntactic locus of  $X''$ .  
 d.  $X^0$  subcategorises for and  $\theta$ -marks its complements.  
 e.  $X^0$  does not subcategorise for, but may be in an agreement relation with, its specifier(s).

Pxes meet these basic criteria for headedness within the PxP itself; property (e) is particularly well exemplified in the relation of Pxes to genitive pronouns. However, if L-selection is indeed one of the most crucial properties of headedness (Cann 1993:68) then in this sense Pxes fail completely to behave like heads, functional or contentive: as given in section 5.2, Pxes co-occur with NPs, noun-like APs, nominalised VPs, and locatives (postpositions and locative Kase Phrases). Compared to more well-attested functional heads such as verbal AGR, which selects for Tense in Finnish, and Det, which selects for N, Pxes share few definitive characteristics of heads, appearing affixed to elements of varying category. Furthermore, Pxes are reflexes of pronouns in genitive case, a case strongly associated with specifier positions (Vainikka 1989c). In this work, then, Pxes are assumed to head their own maximal projections but do not form part of the extended projection of NPs, APs, PP's or any other phrases incorporating contentive elements. Instead, it is proposed that the distribution of Pxes is best accounted for as a result of their nonbranching structure in the functional lexicon.

5.5.4 AGR and Syntactic Structure

In the framework of Tait and Cann (1990) and Cann (1993), syntactic structure is generated according to the Radical Functional Projection Hypothesis. These principles are listed in (40) below:

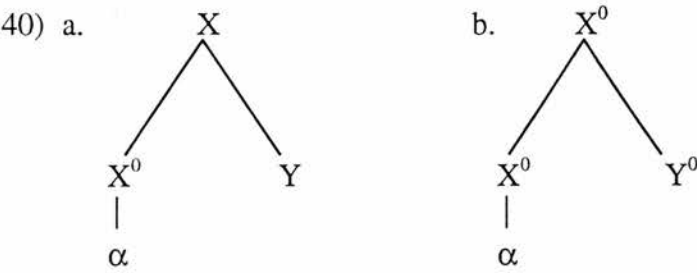
39) Radical Functional Projection Hypothesis:

- a. Functional categories alone determine syntactic structure.
- b. All functional categories project according to X-bar principles:

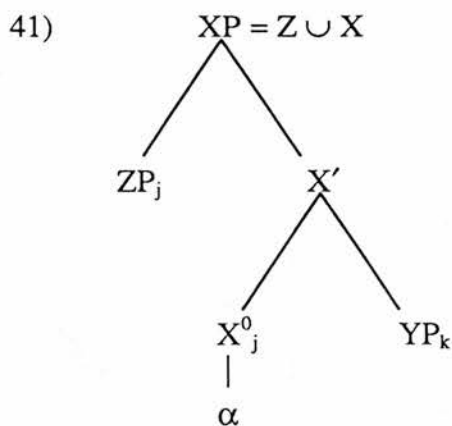
$$\begin{aligned} XP &\rightarrow \dots X' \dots \\ X' &\rightarrow \dots X^0 \dots \end{aligned}$$

- c. Lexically selected elements are projected from the lexicon as complements.
- d. Complements are disjointly indexed with their governing functional heads.
- e. Specifiers are necessarily co-indexed with their governing functional heads.
- f. Co-indexed elements necessarily unify.

Furthermore, the framework assumes that selectional properties of both functional and contentive elements are encoded in the lexicon as trees (Tait 1991). Lexical entries can be of two basic types, as illustrated below; (41b) represents a lexical entry for affixes:



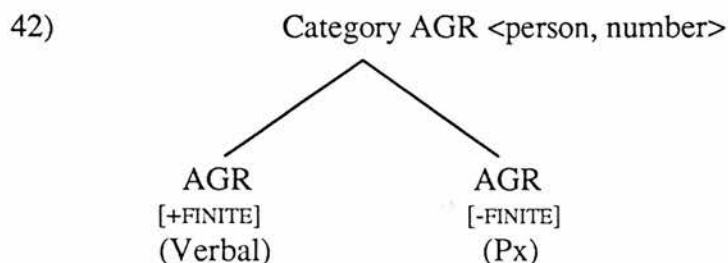
Argument structure is also encoded at the lexical level, with syntactic complements and theta-role assignment specified in the lexical entries of heads. In Cann and Tait's model, heads and specifiers must be categorially compatible. Structure is generated when lexical trees unify (in a manner similar to category unification in GPSG) according to the principles of X-bar, yielding maximal projections such as the following:



In such a structure, head and specifier unify only if categorially compatible, and once unified at D-structure are coindexed and share features (see Cann 1993 for a discussion of the mechanisms of unification and coindexation). Both coindexation and unification, then, depend on categorial compatibility.

Returning now to the data from Finnish as detailed in section 5.2, the distribution of verbal AGR versus Pxes can be summarised as follows: Pxes occur affixed to head nouns, certain adjectives, postpositions and nominalised clauses of ambiguous categorial status; verbal agreement is restricted in distribution to finite clauses. It is evident from this idiosyncratic distribution of Pxes that they do not select as functional heads, while the consistent co-occurrence of verbal agreement with tensed clauses suggests that selection is involved in the distribution of these elements.

Given the hypothesis that Pxes are a variant of verbal agreement and have the categorial status AGREEMENT, two separate reflexes under the same general category (AGR) can be posited, differing primarily in the binary feature [+/-FINITE]:



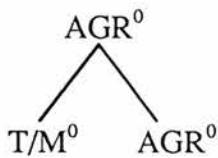
Furthermore, the differing morphological status of the two types of agreement marker can be captured in the following generalisation:

43) Affixal (functional) heads trigger consonant gradation.

(44) essentially states that consonant gradation is a phenomenon sensitive to syntactic structure, in that for it to be triggered in the syllable  $\beta$  preceding a given (consonant-initial) affix  $\alpha$ ,  $\alpha$  must head  $\beta$ . As is demonstrated in the following sections, this morphological feature of the affix head AGR is a consequence of the type of movement involved in joining morphologically bound agreement elements to their hosts.

The constrained distribution of verbal agreement in relation to finiteness, realised in Finnish as the functional head Tense/Mood,<sup>11</sup> is encoded in the f-lexical entry for verbal agreement as illustrated below, corresponding to (41b):

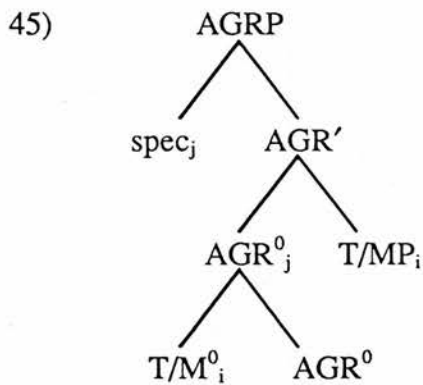
44) Verbal AGR [+FINITE]:



The principles of the Radical Functional Projection Hypothesis, outlined in (40), interacting with the Head Movement Constraint (Baker 1988), yields the following structure:

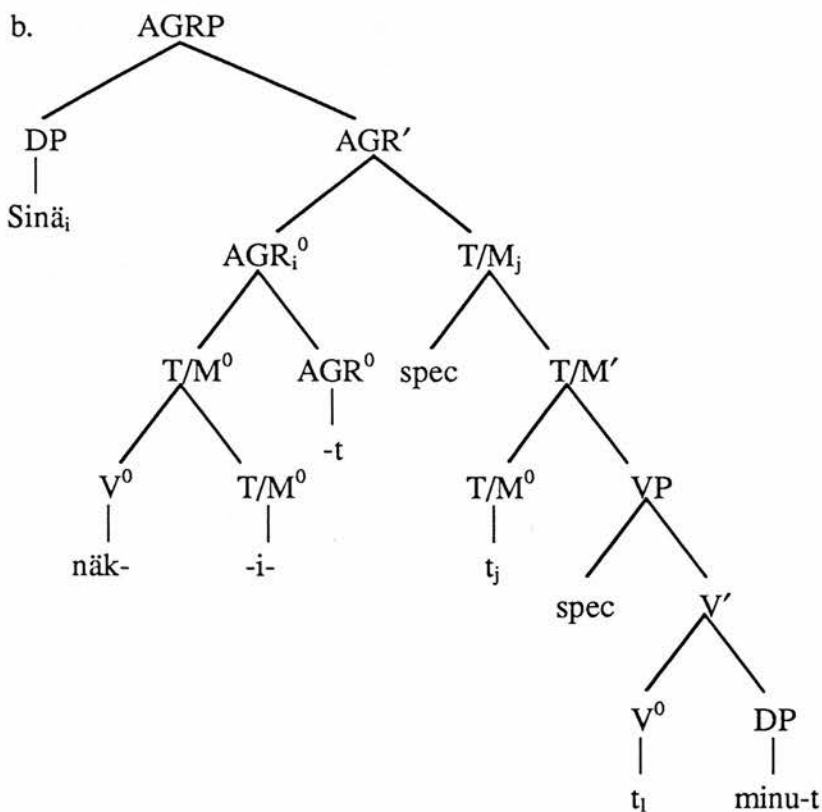
<sup>11</sup> A not uncontroversial assumption; Holmberg et al 1993 posit a functional head Finiteness under which tense and agreement are both subsumed.





Given that Tense/Mood selects for V directly as a complement, the constituent structure of a basic finite clause such as (47a) results (illustrated as 47b):

- 46) a. Sinä      nä-i-t      minu-t  
       you-nom see-past-2s me-acc  
       'You saw me'



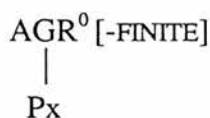
(47b) is the result of head-movement in order to satisfy the PF-Licensing Principle (Tait and Cann 1990, Cann and Tait 1992, and Cann 1993). It is the only well-formed

structure that satisfies the selectional properties of verbal AGR, which takes Tense/Mood as a complement and dominates the tree structure of finite clauses. Because verbal agreement is an affixed functional head, it triggers consonant gradation in the preceding syllable (if consonant-initial). The distribution of verbal AGR is therefore constrained by its selectional properties as specified in the lexicon.

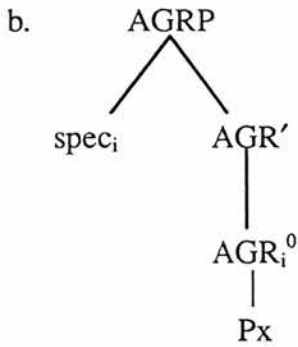
The lexical entry for Px agreement, on the other hand, does not involve selection for or by another element; its tree is nonbranching. It has been argued above that Pxes do not have status as heads. Evidence for this aspect of the lexical specification of Pxes is derived from their distributional patterns across a variety of clause types: Pxes occur affixed to postpositions, certain adjectives, nouns and nominalised (gerundive) clauses, indicating that they do not L-mark a complement. This hypothesis contradicts that of Trosterud (1993), who argues that Pxes are functional heads which select N as a complement. His analysis, however, fails to predict the co-occurrence of Pxes with complements of other categories, particularly postpositions, adjectives and *kaikki*, 'all'.

The following nonbranching lexical tree can therefore be posited for Pxes under the category of AGR:

47) a. Px AGR [-FINITE]:

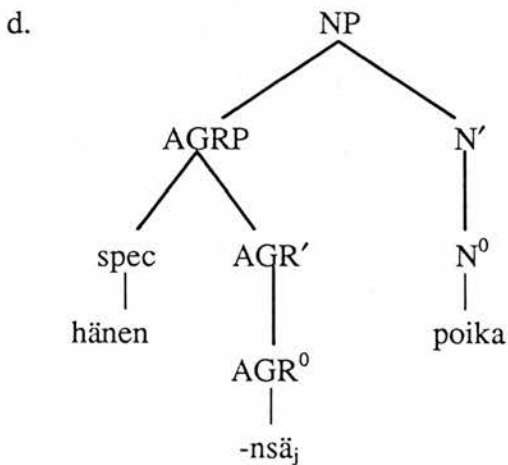


This structure projects in the syntax according to the principles of X-Bar Theory outlined above, yielding a specifier position coindexed with the Px head:



When licensed by the argument structure of the contentive head (as the subject of a nonfinite verb or possessor of a DP), Pxes attach to these non-tensed elements to the only available position, namely as specifiers. Such a structure representation for (48c) below is proposed as (48d):

- 48) c. Häne-n            poika-nsa  
       His/her-gen    boy-Px3  
       ‘His/her boy’



The structure represented above is not well-formed because head-movement of  $N^0$  to the node  $AGR^0$  in its specifier position is disallowed. Chomsky (1986:71) defines head movement as in (49):

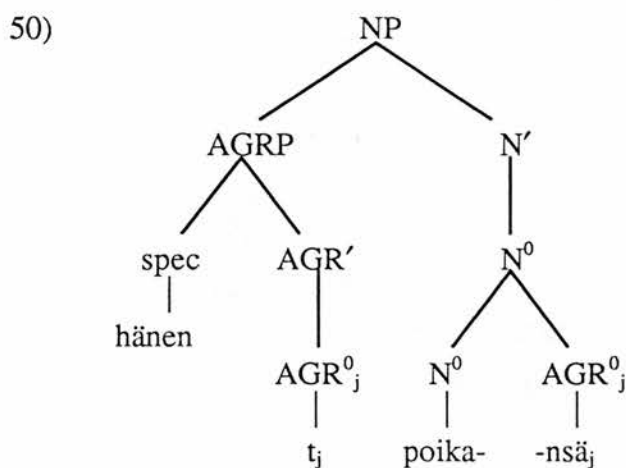
- 48) Movement of a zero-level category  $\beta$  is restricted to the position of a head  $\alpha$  that governs the maximal projection of  $\gamma$  of  $\beta$ , where  $\alpha$   $\theta$ -governs or L-marks  $\gamma$  if  $\alpha \neq C$ .

$AGR^0$  does not theta-govern nor L-mark  $N^0$  (because it fails to select  $N^0$  as a complement), so head-movement is not possible. However, a violation of the Stray Affix Filter

can still be avoided. According to the revised definition of Head Movement provided by Cann (1993:14), the following statement holds:

- 49) An expression immediately dominated by  $Y^0$  may move into a position  $X^0$  that governs its maximal projection,  $Y''$ .

The Px dominated by  $AGR^0$  can move to adjoin to *poika*, since the landing site  $N^0$  is not empty, ruling out substitution:

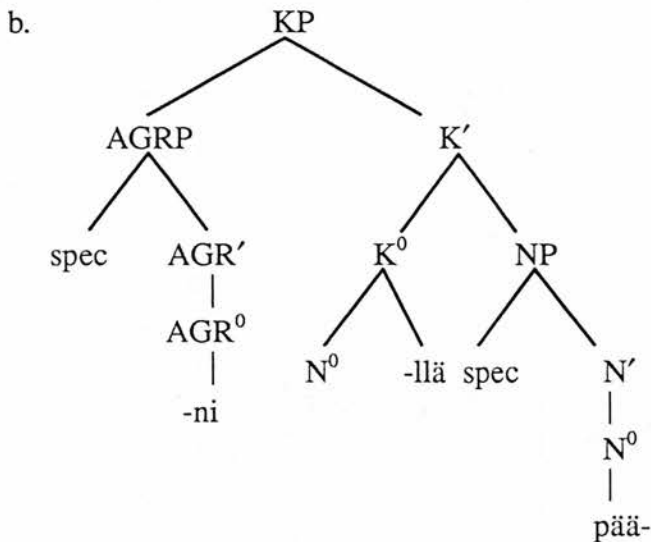


Further evidence for the adjunction, rather than proper affixation, of Px to its host is provided by the fact that the process does not trigger consonant gradation. The ambiguous phonological and morphological status of Pxes, which share aspects of both affix (inflectional) morphology and clitic morphology, is thus mirrored in the syntax.

Vainikka (1989c) presents a similar analysis, with Pxes occurring in specifier positions rather than as functional heads. However, she also proposes that Pxes are base-generated in specifier positions, consistent with the VP-internal subject hypothesis she adopts for finite clauses. In the current analysis Pxes are constrained in their distribution to specifier positions because they do not select complements. No site for base-generation of these elements needs to be stipulated, since their location on the morphology is determined in the lexicon.

In nominal clauses where Pxes occur with locative case marking, the Px agreement appears in the specifier position of the Kase Phrase as illustrated below in a D-structure representation:

- 51) a. pää-llä-ni  
 head-on-Px1s  
 'on my head' or 'on top of me'



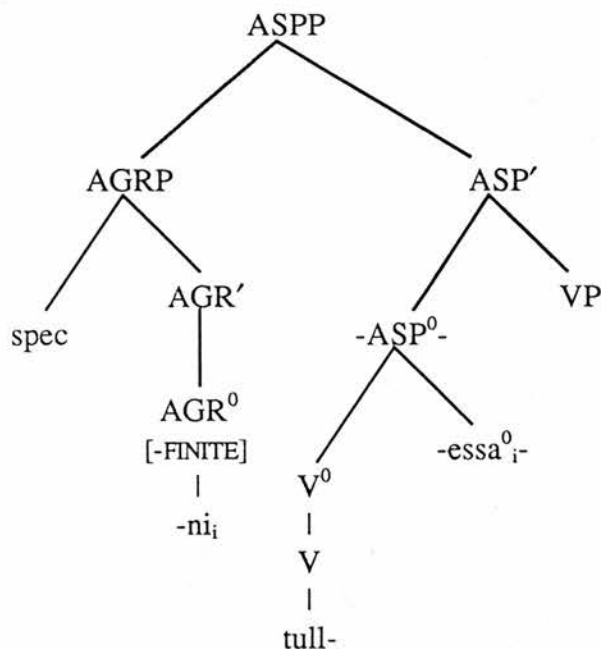
The noun *pää* raises to the locative Kase affix via head-movement, and the Px adjoins to the noun-case complex to yield the surface form *päälläni*, with the surface order noun-case-Px.

Lacking status as selecting heads, Pxes occur in specifier positions only.<sup>12</sup> This distributional requirement of Pxes extends to nominalised clauses in addition to NPs, APs and PPs. In the following chapter, the structural properties of these clauses is discussed in greater detail. Assuming for the moment that nominalised clauses are non-finite (untensed) and headed by the functional category ASP, it is proposed that nominalised clauses have the following structure:

<sup>12</sup> Given that finite AGR may be selected as a complement by another category, e.g. COMP, the question remains as to whether Px AGR may also be selected as a complement. Although nothing prevents this in theory, the distribution of Pxes suggests that it is not selected by any other category.

- 52) a. Tull-essa-ni  
 come-essa-Px1s  
 'As I was coming...'

b.



In the above (D-structure) representation of a nominalised adjunct clause, the PxP occurs in the specifier position of the projection headed by *-essa*, a temporal adjunct clause marker which signals an aspectual relation between main and subordinate clauses. The functional head ASP is necessarily co-indexed with its specifier according to the principle outlined in (39). The verb stem raises via head movement to ASP in the usual way, and the Px adjoins to *-essa* as by the same processes outlined in the previous section. The adjunction of Pxes only to nonfinite functional heads is accounted for by assuming the following to be true:

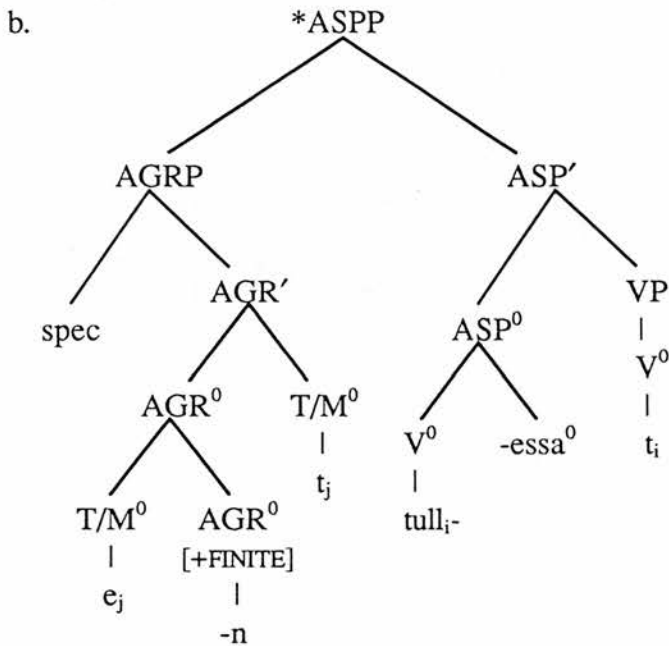
- 53) AGR fails to unify with any verbal projection.

In the mechanism for unification described in (42) above, categorial compatibility was stated as the main prerequisite for unification of specifiers with heads. Verbal AGR, being a reflex of nominal  $\phi$ -features coindexed with an external argument (if any), is nominal in category and is therefore unable to unify in a spec-head relation with

Tense/Mood or V, which are verbal categories. Elements like ASP, on the other hand, are categorially compatible with AGR and may unify.

Because the structure is untensed, i.e. nonfinite, well-formedness is dependent on AGR occurring as a specifier. If verbal (finite) AGR occurred in the specifier position of a nominalised clause, the structure would not be well-formed because AGR would fail to take Tense as a complement, as specified in the f-lexical entry for  $AGR_{[+FINITE]}$ :

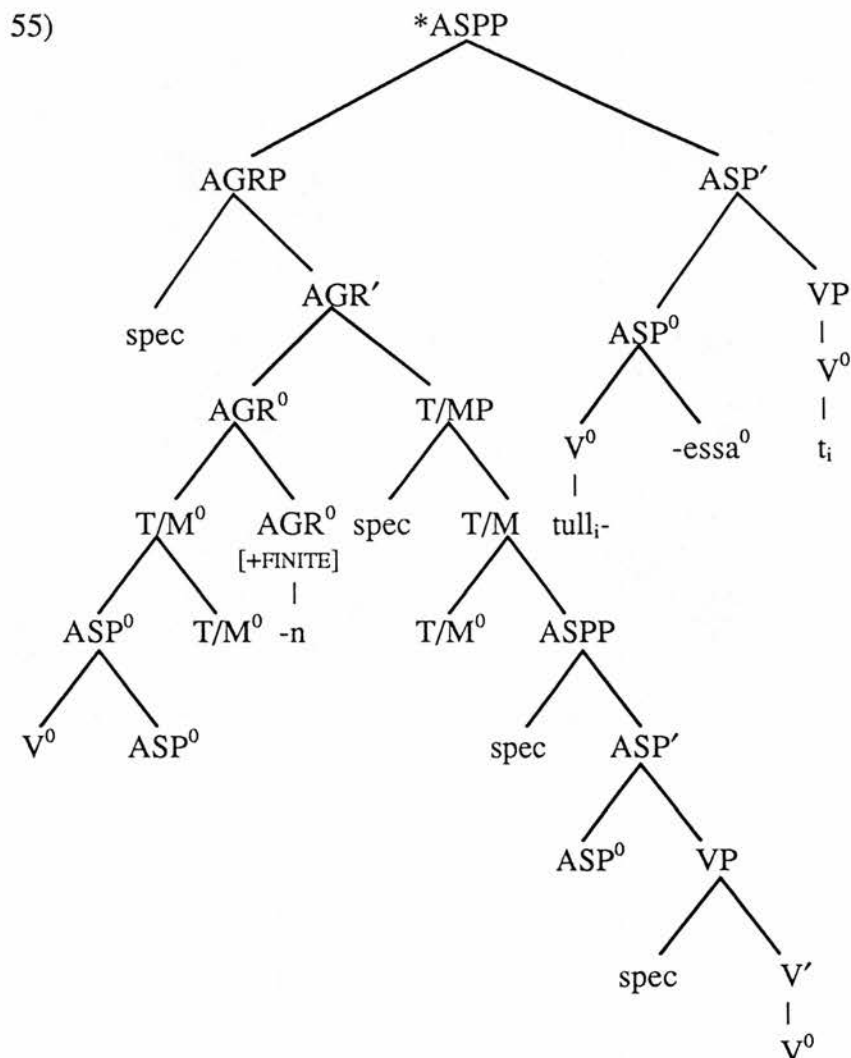
- 54) a. \*Tull-essa-n  
come-essa-1s  
'As I was coming...'



In the phrase structure representation above, the element selected as a complement by verbal  $AGR^0$ ,  $T^0$ , is unfilled by morphological material; the only available elements are V and the nonfinite affix *-essa*, and neither can satisfy the selectional requirements encoded in the lexical entry for finite  $AGR^0$ . The derivation fails at PF because the PFLP is violated by the presence of an empty functional head.

The structure described above is ruled out because finite AGR selects T/M as a complement, and an empty head T/M would violate the PFLP. What then rules out a finite

clause headed by AGRP in spec(ASPP), where the selectional requirements of all functional categories are satisfied, as in (56) below?



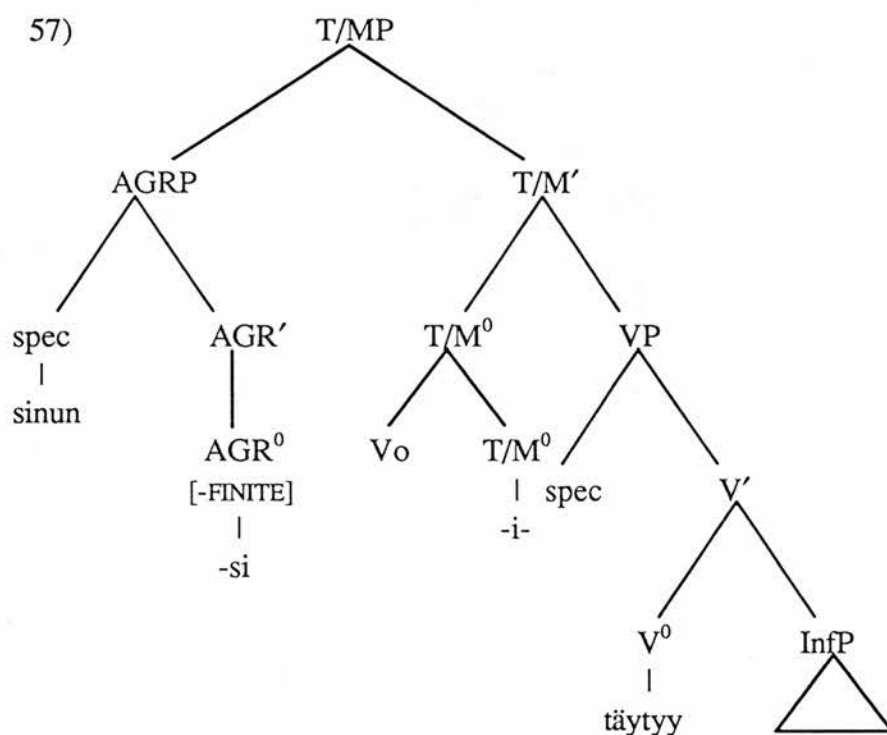
There are at least two reasons why the above derivation fails. Firstly, because the finite AGR element in spec(ASPP) heads its own extended verbal projection, the external argument of the nominalised verb cannot be interpreted because AGR must be coindexed with the *finite* verb and its subject theta-role. Secondly, the structure violates the Stray Affix Filter because *-essa* occurs word finally, without a Px (phonetically overt or phonetically null; the licensing of zero Pxes is discussed in section 5.5.5 below). The distribution of agreement elements in specifier positions, though allowed within the syntactic model adopted here, is therefore constrained by general syntactic principles.



The selectional properties posited for the two types of AGR, which restrict the distribution of verbal agreement to tensed clauses and Px agreement to nontensed clauses, also predicts that Px (-FINITE) agreement can never occur in tensed clauses, even with verbs which lexically select genitive subjects. Evidence from modal verbs taking genitive subjects shows that this is indeed the case; no Px agreement is possible:

- 56) \* Sinu-n täyty-i-si mennä koti-in.  
 you-gen must-past-Px2s to go home-to  
 'You had to go home'

The ungrammatical sentence given above has the following D-structure:



The D-structure derivation represented above fails because, although the respective complement of Tense/Mood is available in the structure, the Px element *-si* cannot attach to the Tense infix *-i-* because it is incompatible with the feature [+FINITE] inherently present in the element Tense/Mood. Thus the only well-formed structure in which a Px can occur is one in which the Px occupies a specifier position in an untensed environment, this being the result of the (lack of) selectional properties specified in the lexical entry for  $AGR^0_{[-FINITE]}$ .

### 5.5.5 The Licensing of Non-overt Pxes

It has been argued in the preceding sections that Px agreement heads its own projection but does not form part of the extended projection of contentive elements, restricted in distribution to specifier positions. The genitive pronouns which co-occur with Pxes are assumed to be specifiers of the head Px. However, Px affixes themselves are not phonetically realised in all contexts. This appears to pose a problem for the PF Licensing Principle (as given in Cann and Tait 1989:9), described in Chapter 1 and repeated below.

#### 58) *PF Licensing Principle*

$\alpha$  is PF-licensed iff.

- a. the head of  $\alpha$  contains phonologically realised material or
- b. the head of  $\alpha$  is bound by a PF-licensed position or
- c.  $\alpha$  binds a PF-licensed trace

Perhaps the most crucial role of the PFLP in a theory of syntax is to constrain the acquisition of functional and contentive elements by requiring them to be phonetically realised in some way. Within the context of current syntactic theory one of the main motivations for this constraint is to curtail the proliferation of phonetically unlicensed, empty heads being posited, particularly functional elements. If Px affixes are not always phonetically realised, how can they license PxPs as empty heads, given the restriction on empty heads placed on acquisition by the PFLP? And how can empty Pxes be acquired in these cases? Before an account of the licensing of these projections is given, the contexts in which “empty” Pxes occur is reviewed.

#### 5.5.5.1 *Full DP genitive specifiers*

The Px agreement paradigm, as mentioned in the introduction, is not triggered when locally bound by a non-pronoun.

- 59) I.iisa-n    avaa-ma    kirje  
       Lisa-gen   open-pass letter  
       ‘The letter that Lisa opened’

### 5.5.5.2 Inanimate and interrogative pronominal specifiers

Px affixes also fail to co-occur with inanimate genitive pronouns and the genitive interrogative pronoun *kenen*:

- 60) a. se-n jalka  
       it-gen leg  
       ‘its leg’  
       b. Kene-n kirja se on?  
           Who-gen book it is  
           ‘Whose book is it?’

### 5.5.5.3 Complement clauses

Px affixes in complement clauses cannot be locally bound. Firstly, ‘doubling’ with a genitive pronoun is disallowed in all paradigm slots; doubling with a first or second person Px for emphasis is ungrammatical, and in the third person the genitive pronoun fails to trigger Px agreement.<sup>13</sup>

- 61) a. \*Minä kerro-i-n minu-n ole-va-ni oikeassa  
       I say-past-1s my-gen be-pcp-(acc)-Px1s right  
       ‘I said that *I* was right’  
       b. Tanja tietä-ä häne-n ole-va-n oikeassa  
           Tanja know-3s his/her-gen be-pcp-acc right  
           ‘Tanja<sub>i</sub> knows he/she<sub>j</sub> is right’/  
           \*‘Tanja<sub>i</sub> knows she<sub>i</sub> is right’

In various contexts, then, a genitive pronoun can signal a referent when no Px agreement reflex occurs.

The previous literature on the topic of Pxes has tended to focus on this relation to genitive pronouns. As described above in section 5.2.5, the data is problematic because third person Pxes differ from first and second person Pxes in they are strictly ana-

<sup>13</sup> An account for these binding facts will be left for future research.

phoric, and must be coreferential with an antecedent, either a genitive third person pronoun inside the clause or a wider range of referential expressions outside the clause. Genitive DPs which are not animate pronouns fail to trigger overt Px agreement. Furthermore, first and second-person Pxes may be pronominal. These facts have led to a range of analyses. Some have argued (Kanerva 1987) that Pxes are purely inflectional affixes marking agreement with genitive pronouns. In these analyses a null genitive pronoun is posited when a Px is bound with an element outside the clause. Vainikka (1989c), van Steenbergen (1990), and Nevis (1984, 1986, 1987) have suggested that Pxes are anaphoric, bound with overt or empty genitive pronouns. Others (Pierrehumbert 1980; Trosterud 1993) have interpreted them as being independent syntactic units with full status as arguments and genitive pronoun specifiers which cliticise onto the host. In Trosterud 1993 Pxes are also given status as functional elements which head noun phrases.

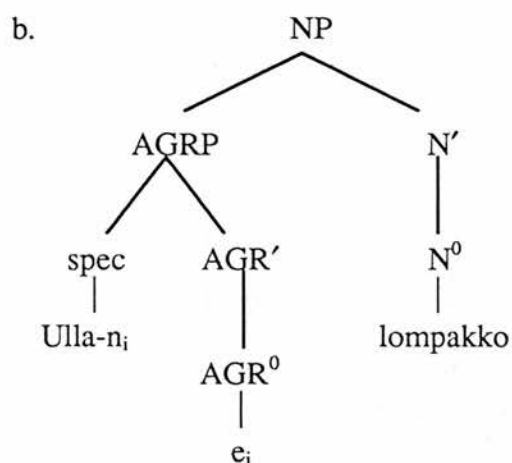
With recent developments in generative syntax whereby purely inflectional elements are interpreted as being as active in syntactic processes, if not more active than, contentive elements, the clitic-vs.-affix issue has to a certain extent become redundant (though not without raising further theoretical issues). Furthermore, notions of licensing inherent in the syntactic framework adopted here allow for a shift of focus away from the relationship between Pxes and genitive pronouns, towards the more salient issue of what licenses Px agreement in a given phrase. More important than the labelling of Pxes are their phonological and syntactic properties.

The PF-licensing Principle, given above as (59), places constraints on both acquisition and well-formedness in that all lexical elements must be licensed at PF. From these principles can be derived the notion that an element is PF-licensed if it is associated via coindexation with a PF-licensed element. Furthermore, the following relation between heads and specifiers is given in the Radical Functional Projection Hypothesis outlined in (40):

- 62) Specifiers are necessarily co-indexed with their governing functional heads.

It follows that an empty node  $\alpha$  may be licensed if an element  $\beta$  in its specifier position has phonetic content (Tait 1991:193-4, Cann 1993:65), or at least the maximal projection of  $\alpha$  will not constitute a violation of the PFLP. PxPs, then, can be licensed by genitive DP specifiers:

- 63) a. Ulla-n lompakko  
       Ulla-gen wallet  
       'Ulla's wallet'



The empty node in the phrase structure diagram above is PF-licensed through coindexation with the genitive DP *Ullan* in its specifier position;<sup>14</sup> the genitive DP binds and c-commands the head of the PxP, forming a coindexed chain. The projection of the 'empty' head Px is therefore licensed by the phonetically realised element in its specifier position. Acquisition of phonetically unrealised  $\text{AGR}^0_{[-\text{FINITE}]}$  is unproblematic. To a certain extent, then, the status of Pxes as pronominal or anaphoric becomes an irrelevant issue so long as the phrases they head are PF-licensed.<sup>15</sup>

<sup>14</sup> This analysis also accounts for the absence of Pxes in spoken Finnish, which appear instead as genitive pronouns exclusively. However, no attempt will be made here to account for the syntax of spoken Finnish in an exhaustive way.

<sup>15</sup> The question of how third person Pxes are specified as [+anaphor], while first and second person Pxes are not, will be left open here, although it can be assumed that this is somehow specified in the lexicon.

## 5.6 Conclusion

In this chapter an analysis of Possessive Affixes (Pxes) was posited which accounts for their distribution in non-tensed clauses. It is proposed that both verbal AGR and Px agreement are both acquired under the functional category specification [AGR], but that the two agreement paradigms differ with respect to the feature FINITENESS. The syntactic tree structures in the f-lexical entries for finite vs non-finite agreement are structurally distinct: verbal AGR selects the functional head Tense/Mood as a complement, behaving as the syntactic head of the finite clause. The tree structure of Pxes is non-branching. Because Pxes fail to take complements they are restricted in distribution to specifier positions. Pxes co-occurring with Tense/Mood and verbal AGR co-occurring with untensed elements therefore constitute a violation of syntactic well-formedness. It is proposed that Pxes and genitive DPs or pronouns may PF-license a projection of Px via spec-head coindexing.

## 6. Complex Predicates and Non-finite Clauses

In the previous five chapters, data from simple finite clauses was analysed and a model for case assignment proposed which accounted for the alternation between accusative pronouns and nominative full DP internal arguments as resulting from the assignment of two case features simultaneously. In Chapter 5 the status of Finnish possessive affixes (Pxes) was addressed, and it was argued that although category AGR, they are restricted to specifier positions in untensed structures. In this chapter these hypotheses are tested for complex predicates (raising-type constructions involving infinitival clauses) and nominalisations.

### 6.1 Case assignment and complex predicates

We have seen in previous sections that internal arguments of unaccusative, imperative, or impersonal passive verbs appear in zero-accusative, accusative or partitive case. The generalisation drawn thus far is that a verb which fails to theta-mark an external argument or whose external argument is unavailable for case marking may assign double case features to its internal argument. In light of this hypothesis, this section addresses the issue of case in complex predicates. This brief survey of the data brings to light relevant issues involving the link between argument structure and case assignment, but further research is required before a detailed account of case in all relevant complex predicate structures can be formulated.

#### 6.1.1 +AGR raising verbs

A number of verbs in Finnish display a patterns of case and agreement consistent with standard subject-to-subject raising in English. These verbs include *näkyä*, 'to seem', *näyttää*, 'to appear', 'to seem'; *kuulua*, 'to sound (like), to be heard (that)'; and *vaikuttaa*, 'to seem'. Both pronominal and full DP subjects of these verbs appear in

nominative case, and the raising verb shows agreement with the subject (data previously given in Chapter 3):

- 1) a. Mauno       näytt-i       ole-van       väsynyt.  
       Mauno-nom appear-past-s be-pcp/np tired  
       'Mauno appeared to be tired'
- b. \*Mauno-n   näytt-i       ole-van       väsynyt.  
       Mauno-acc appear-past-3s be-pcp/np tired
- 2) a. Sinä       näytä-t       ole-van       väsynyt.  
       you-nom appear-2s be-pcp/np tired  
       'You appear to be tired'
- b. \*Sinu-t       näytä-t       ole-van       väsynyt.  
       you-nom appear-2s be-pcp/np tired

The lower clause constituent in this construction is a nominalised complement clause (discussed below in section 6.2.1) rather than an infinitive. Objects of the lower clause, when it is transitive, are case-marked as in a normal finite transitive clause:

- 3) Te       näytä-tte osta-van       uude-n       marsu-n.  
       You-nom seem-2p buy-pcp/np new-acc guinea-pig-acc  
       'You (p) seem to be buying a new guinea-pig'

These sentences can be given a straightforward raising analysis consistent with the current account of case assignment. The surface subject originates as a subject of the lower clause, which raises to the (tensed) main clause to receive the nominative case feature. Because it does not originate as an internal argument of the lower clause, and because verbs like *näyttää* fail to assign aspectual theta-roles as well as objective case, the surface subject does not show the zero-accusative case split between full DPs and pronouns. The lower nominalised clause is untensed, so no nominative case feature is assigned within the clause.



### 6.1.2 Necessive verbs and -TA- infinitives

More interesting case-related phenomena is found in raising-type constructions where the surface subject does not receive nominative case. Consider the case of the lower clause object in the following sentences:

4) a. Sinu-n     pitä-isi             teh-dä se.  
       you-gen should-cond/3s do-inf it-nom  
       ‘You should do it’

b. Sinä       halua-t     teh-dä se-n.  
       you-nom want-2s do-inf it-acc  
       ‘You want to do it’

It has been noted in most of the previous literature on grammatical case in Finnish that infinitival complements appear to be ‘transparent’ to case assignment by the matrix verb. Sentences like (4a) and (4b) exemplify this generalisation: in (4a), the matrix verb is a *necessive* verb with a genitive subject that does not agree, and the form of the lower clause object is zero-accusative. In (4b), the matrix verb agrees with its subject and controls PRO in the lower clause subject, where accusative case is also assigned to the internal argument.

Particularly relevant to the themes addressed in this thesis are the properties of the matrix verb in (a). The verb *pitäisi* belongs to a class of ‘necessive’ verbs, which include *pitää*, ‘should’, *täytyä*, ‘must’, and *tarvita* ‘need’. These verbs tend to share a certain semantic feature, namely that of obligation imposed on the speaker from an external source.<sup>1</sup> Unlike the [+AGR] raising verbs described in the previous section, *necessive* verbs license genitive case-marked subjects and an infinitival complement. Infinitives in Finnish are formed by affixation of two morphemes, -MA- and -TA-,<sup>2</sup> each of which may be lexically selected as a complement by certain matrix verbs. Ne-

<sup>1</sup> These verbs may also get an epistemic reading, a fact which will not be addressed here.

<sup>2</sup> The terminology used to describe these infinitives is adopted from Vainikka (1989c).

cessive verbs (5) tend to select -TA- complements, while verbs like *innostua*, 'to get carried away (by)', select -MA- infinitival complements:

- 5) a. Maija-n      täyty-y      ava-ta      ovi.  
       Maijan-gen   must-3s   open-TA   door-nom  
       'Maija must open the door'
- b. \*Maija-n      täyty-y      avaa-ma-an      ovi.  
       Maijan-gen   must-3s   open-MA-ill   door-nom
- 6) a. Innostu-i-n              osta-ma-an      kallii-n      koru-n.  
       get enthused-past-1s   buy-MA-ill   expensive-acc   jewellery-acc  
       'I was carried away into buying expensive jewellery'
- b. \*Innostu-i-n              osta-a      kallii-n      koru-n.  
       get enthused-past-1s   buy-TA   expensive-acc   jewellery-acc

Verbs selecting -MA- infinitives as complements, which assign nominative case to their subjects, are discussed in section 6.1.4 below. Subjects of necessary verbs appear in the genitive; nominative subjects are ungrammatical:

- 7) Sinu-n      pitä-isi              tuo-da      heidä-t      koti-in.  
       you-gen   should-cond/3s   bring-TA   them-acc   home-to  
       'You should bring them home'
- 8) \*Sinä      pitä-isi              tuo-da      heidä-t      koti-in.  
       you-nom   should-cond/3s   bring-TA   them-acc   home-to

Like AGR in impersonal passives, necessary verbal AGR is  $-\phi$ , failing to reflect person and number features of the subject:

- 9) Häne-n      täyty-y      teh-dä      se.  
       s/he-gen   must-3s   do-TA   it-nom  
       'He/she must do it'
- 10) Heidä-n      täyty-y      teh-dä      se.  
       they-gen   must-3s   do-TA   it-nom  
       'They must do it'

The question most relevant to the themes addressed in this thesis is, do necessary verbs license an external argument? If they do not, and are basically unaccusative, then how

do subjects get assigned genitive case, and how does nominative case get assigned to the lower clause complement? Several different hypotheses have been put forward in the literature. Vainikka (1989c) argues that necessity verbs do license a genitive subject as an external argument, base-generated in spec(VP). She suggests that genitive case in subjects of modal verbs such as *täytyä* appears as the result of the fact that no agreement features are base-generated in INFL, therefore the subject remains *in situ* in spec(VP) and retains genitive case features by structural default. Mitchell (1991b) posits a functional projection [+Obl] (for Obligation) as the site where genitive subjects of modals involving obligation are base-generated.

Marantz (1984) points out that VPs, being maximal projections, cannot lexically assign 'quirky' subject case, and argues that in languages like Icelandic, 'quirky' subjects originate as internal arguments. This analysis entails that genitive subjects in Finnish are theta-marked as internal arguments of the necessity verb. In terms of animacy hierarchies, the semantic feature of obligation entails that the 'subject' of a necessity verb is low in volition and agency, which correlates with internal argumenthood and/or non-nominative case assignment in other environments (e.g. unaccusatives). Consistent with this observation, Laitinen and Vilkuna (1993) argue at length that genitive subjects of necessity verbs are *not* arguments of the necessity verb, but that necessity verbs are monadic predicates taking a clausal complement. Their analysis therefore suggests raising to subject from the *lower* infinitival clause. The question remains as to whether genitive is lexically or structurally assigned.

Within the current model for case assignment, a difficulty arises in postulating genitive as a structural case for subjects. If elements that move to spec(AGRP) get assigned structural nominative case via T/M, as proposed in Chapter 4, then the same position cannot be a locus for structural genitive case. Necessity verbs are in fact tensed, so nominative case is the predicted structural case for subjects of these verbs. Vainikka (1989c, 1993), Maling (1993) and Vainikka and Maling (in press) solve this problem by adopting a general rule wherein genitive case is assigned by structural default to elements in specifier positions for both finite and non-finite clauses. If this includes derived subjects such as *avaimen* in (12b), and *Johnin* in (11b), however, it is unclear

how this rule can disallow genitive case assignment to a derived subject in a passive, for example:

- 11) Kirja /\*kirja-n            lue-ttiin  
       book-nom /book-gen    read-pass/past  
       'The book was read'

The only way to rule out a genitive subject in (13) in Vainikka's and Maling's models is to stipulate that movement in (11b) and (12b) is not to spec(IP) (a position split into spec(T/MP) and spec(AGRP) in the current framework).

A possible analysis for these structures captures related data from a small set of semantically-related verbs (*antaa*, 'to let'; *käskää* 'to order, to tell'; *sallia* 'to allow, permit'; and *suoda* 'to grant'), which also select a -TA- infinitival complement. Subjects of the lower clause selected by these verbs take genitive subjects, regardless of the argument structure of the matrix verb:

- 12) a. Anna-n häne-n        osta-a    marsu-n.  
       let-1s    him/her-gen buy-TA guinea pig-acc  
       'I'll let him/her buy the guinea pig'
- b. Anna        häne-n        osta-a    marsu!  
       let-imp    him/her-gen buy-TA guinea pig-nom  
       'Let him/her buy the guinea pig!'

Objects in the lower clause complements in (12a) and (b) show the familiar zero-accusative pattern sensitive to the argument structure of the matrix verb, but the *subject* of the lower clause in this construction invariably appears in genitive case. Following Laitinen and Vilkkuna's (1993) proposal that genitive 'subjects' of neccessive verbs are arguments of the lower clause predicate rather than the neccessive verb, the data in (12) suggest that subjects of -TA- infinitival clauses, when not PRO, raise to object to be assigned lexical genitive case by certain verbs. This entails that genitive 'subjects' of neccessive constructions are raised from the lower clause subject position via this lexical case-marked position (as in 12b), and then to surface subject position.<sup>3</sup>

<sup>3</sup> Maling (1993:54, fn. 8), however, argues that genitive case in this construction is structural, since elements that appear to have raised to subject position after D-structure appear in genitive case. This

Nominative case assignment to the lower clause object in (9) and (10) and (12b) and remains to be accounted for. Vainikka (1989c), assumes that -MA- and -TA- infinitivals head their own projections but are not barriers to government from the matrix verb. If following Marantz (1984) and Baker (1988) complex predicates such as those described in this section merge into a single clause, then AGR and T/M govern both matrix verbs and their infinitival complements. By the same mechanism that assigns postverbal nominative case in impersonal passives and unaccusatives, T/M may assign nominative case under *i*-command to the object of a lower clause.

If the raised subject is assigned genitive case lexically (at D-structure), then the question remains as to why the lower clause object gets assigned a nominative case feature instead of the genitive subject, if the subject raises to spec(AGRP). Similar phenomena have appeared in clauses involving lexical case assignment, as discussed in section 4.6.1:

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generalisation includes data from copular constructions governed by neccessive verbs (ii) and idioms (i) (data in (i) from Maling 1993:54):

- i. a. John      potkais-i    tyhjä-ä    viime yönä  
       John-nom kick-past/3s empty-part last night  
       'John kicked the bucket last night'
- b. Johni-n on täyty-nyt potkaista tyhjä-ä    viime yönä  
       John-gen be must-ppp kick-inf    empty-part last night  
       'John must have kicked the bucket last night'
- ii. a. Soili-lla      pitäisi ol-la    avain.  
       Soili-adess should be-inf key-nom  
       'Soili should have the key'
- b. Avaime-n pitäisi ol-la Soili-lla  
       key-gen    should be-inf Soili-adess  
       'The key should be with Soili'

According to the current analysis, the lower clause subject in i and ii(b) must be base-generated as the subject of the lower infinitival verb, then raised to surface subject via lower object position to receive genitive case. It is unclear, however, where *avaimen* in ii(b) is base-generated or how it is theta-marked.

13) a. Kirjallisuute-en erikoistu-ttiin vuosi.  
 literature-ill specialise-pass/past year-nom  
 'Literature was specialised in for a year'

b. \* Kirjallisuute-en erikoistu-ttiin vuode-n.  
 literature-ill specialise-pass/past year-acc

In (13a) above, the adverbial receives nominative case instead of the lexically case-marked element, even though lexically case-marked elements must be able to receive a nominative case feature when no adverbial is present. In Chapter 4 the following rule was proposed as (58), repeated below as (14a), which interacts with Maling's (1993:60) Case-Tier hierarchy (14b) to yield correct case assignment for doubly-marked elements:

14) a. Assign second case feature to structurally case-marked elements before lexically case marked elements.

b. which XP gets NOM reflects the hierarchy of GFs, where  
 SUBJ > OBJ > MEASURE > DUR > FREQ > OBL

If, given their low values for agentivity and volition, genitive subjects are assumed to be lexically-assigned obliques for the purposes of this hierarchy, this predicts that an argument functioning as an object in a neccessive construction will receive nominative case before a genitive subject.

### 6.1.3 Experiencer verbs and -TA- infinitival constructions

Another class of verbs appears in a similar construction to the neccessive verbs described above. The surface subjects of experiencer verbs appear in partitive case rather than nominative or accusative, and also fail to agree with the verb. These verbs may take sentential complements:

- 15) a. Tanja-a harmitt-i teh-dä työ-tä sunnuntai-na.  
 Tanja-part annoy-past/3s do-inf work-part Sunday-on  
 'It annoyed Tanja to work on a Sunday'
- b. \*Tanja-n harmitt-i teh-dä työ-tä sunnuntai-na.  
 Tanja-acc annoy-past/3s do-inf work-part Sunday-on
- c. \*Tanja harmitt-i teh-dä työ-tä sunnuntai-na.  
 Tanja-nom annoy-past/3s do-inf work-part Sunday-on

Animate pronominal subjects also appear in partitive case:

- 16) a. Minu-a harmitt-i teh-dä työ-tä sunnuntai-na.  
 I-part annoy-past/3s do-inf work-part Sunday-on  
 'It annoyed me to work on a Sunday'
- b. \*Minu-t harmitt-i teh-dä työ-tä sunnuntai-na.  
 me-acc annoy-past/3s do-inf work-part Sunday-on

As is the case in necessary constructions, the lower clause object appears in nominative or accusative case, depending on whether it is a full DP or a pronoun:

- 17) a. Minu-a pelotta-a ava-ta ovi  
 I-part fear-3s open-inf door-nom  
 'I'm afraid to open the door'
- b. Minu-a pelotta-a näh-dä häne-t  
 I-part fear-3s see-inf him/her-acc  
 'I'm afraid to see him/her'

Necessary verbs form a semantic class but are morphologically heterogeneous. Experiencer verbs are semantically related and share a morphological feature: infixes to the verbal stem of these verbs is a *-tt-* morph, which is listed in descriptive grammars (Sulkala and Karjalainen 1992:295) as the causative affix.<sup>4</sup> It is highly productive:

<sup>4</sup> Finnish also has causative verbs where the Causer appears in nominative case and the Agent in oblique case:

- i. Minä pese-t-i-n auto-n Peka-lla  
 I-nom wash-caus-past-1s car-acc Pekka-adess  
 'I had the car washed by Pekka'

Unlike Experiencer verbs, causative verbs show agreement morphology and specify an agent. This is assumed to be a separate construction.



- |     |                                |                         |
|-----|--------------------------------|-------------------------|
| 18) | haluta 'to want' >> haluttaa   | 'to feel like'          |
|     | itkeä 'to cry' >> itkettää     | 'to feel like crying'   |
|     | nauraa 'to laugh' >> naurattaa | 'to feel like laughing' |
|     | pelätä 'I fear' >> pelottaa    | 'to be frightened by'   |

Following Baker (1988), causative morphology is taken to be a syntactic process that alters valency when the verbal stem incorporates the causative affix. However, partitive-subject 'Experiencer' verbs lack a syntactically overt causer or agent. Specifically, then, *-tt-* in these verbs absorbs the external argument of the verb as in passivisation, while 'promoting' the internal argument to main clause subject.<sup>5</sup> Because of the stative nature of Experiencer verbs, internal arguments are assigned a non-aspectual theta-role, and surface in partitive case. Since the matrix verb lacks a syntactic subject but still governs the (non-case-assigning) infinitival complement clause, the lower clause object is case-marked as a zero-accusative.

#### 6.1.4 -MA- Infinitives

Verbs that subcategorise for clausal arguments may select two types of infinitives, *-MA-* and *-TA-*. Verbs that select *-TA-* complements may lexically case-mark genitive subjects of the lower clause. Complex predicates involving *-MA-* infinitives, on the

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<sup>5</sup> Vainikka (1989b:226) notes the following word order effects in experiencer constructions: experiencer verbs appear to take partitive complements, suggesting that the partitive 'subject' is an underlying complement. However, preposing an oblique modifier results in ungrammaticality:

- i. Jukka-a pelotta-a hammaslääkäri-llä.  
Jukka-part scare-3s dentist-at  
'Jukka is afraid when at the dentist's'
- ii. Hammaslääkäri pelotta-a Jukka-a.  
dentist-nom scare-3s Jukka-part  
'The dentist scares Jukka'
- iii. \*Hammaslääkäri-llä pelotta-a Jukka-a.  
dentist-at scare-3s Jukka-part

Vainikka suggests that fronting of the partitive object may occur early in the derivation, an analysis consistent with the current analysis of causatives as merged predicates.



other hand, assign structural case rather than lexical case to arguments of the lower clause.

Complements of -MA- infinitives appear marked for objective case according to the argument structure of the matrix verb:

- 19) a. Innostu-i-n                      osta-ma-an      kallii-n              koru-n.  
       get enthused-past-1s    buy-MA-ill      expensive-acc jewelry-acc  
       'I was carried away into buying expensive jewelry'
- b. Innostu-ttiin                      osta-ma-an      kallis                koru.  
       get enthused-pass/past    buy-MA-ill      expensive-nom jewelry-nom  
       '(They) were carried away into buying expensive jewelry'

The data is further complicated by the facts noted by Vainikka (1989c) when overt subjects are present in the lower clause. A subset of verbs which select -MA- infinitival complements also allow overt subjects of the lower clause. Such verbs include *pakottaa*, 'to force', *vaatia*, 'to demand', *kehottaa*, 'to urge' and *estää*, 'to prevent'. These verbs appear to belong to roughly the same semantic class as the four which take -TA- complements with subjects, and those that typically assign ECM in English. The case in which the lower clause subject appears, however, is also determined by the argument structure and agreement features of the matrix verb:

- 20) a. Hän              pakott-i              lapse-n      avaa-ma-an      ove-n.  
       S/he-nom    force-past/3s    child-acc    open-MA-ill    door-acc  
       'S/he forced the child to open the door'
- b. Pakota              lapsi              avaa-ma-an      ovi!  
       Force-imp    child-nom    open-MA-ill    door-nom!  
       'Force the child to open the door!'

Depending on the semantics of the two verbs involved, the lower clause subject and object may appear in mismatched objective cases:

- 21) Hän kehott-i              poikaystävä-ä-nsä      leikkaa-ma-an      hiukse-nsa  
       S/he    urge-past/3s    boyfriend-part-Px3    cut-MA-ill      hair-(acc)-Px3  
       'S/he urged his/her boyfriend to cut his hair'

Data such as (21) above is evidence that both verbs may assign objective case independently of each other, and suggests that main clause verbs do not govern the complements of -MA- infinitives. Both the matrix verb and the lower clause verb headed by the infinitive ending -MA- retain an ability to assign aspectual theta-roles, and therefore objective case; the matrix verb assigns ECM to the lower clause subject, and the infinitive assigns objective case under government in the usual way.

However, assignment of nominative case in sentences like (20b) remains to be accounted for. In simple unaccusative and passive sentences, an internal argument may raise to a position following the verb where it is assigned nominative case. Since certain verbs take infinitives headed by -MA- as arguments, it follows that an entire infinitival clause headed by -MA- may undergo raising in a similar fashion to a position governed by T/M. The head -MA- is assigned nominative case, and the case feature percolates throughout the clause to all arguments. As we have seen, however, -MA- infinitives may assign aspectual (or non-aspectual) roles to their complements independent of the main clause, as in (21). Although the entire -MA- clause may raise to a position governed by T/M, and thus receive a nominative case feature, aspectual role assignment by -MA- may result in the assignment of double objective case. The morphological rules posited in Chapter 4 realise surface case in such examples.

### 6.1.5 Infinitives out of context

In Chapter 4 an analysis was presented to account for patterns of case assignment in Finnish which links nominative case assignment with the functional category Tense/Mood. A bi-unique case-assigning property of T/M was posited, which ensures that one nominative case feature is assigned per finite sentence. In other words, if T/M projects in a structure, then nominative case will be assigned. It should be pointed out, however, that the converse is not necessarily true; if lexical DPs occur out of clausal context, for instance in a bare infinitive, the zero-accusative case pattern is still evident, despite the absence of case-assigning T/M:

- 22) a. Jättä-ä nyt lapsi /häne-t yksin koti-in!  
 leave-TA now child-nom himher-acc alone home-at  
 'To leave a child at home!' (Goodness!)

- b. Luke-a nyt kirja-a!  
 read-TA now book-part  
 'To read part of a book!' (What a waste!)

In (22) above, the object DP of the -TA- infinitive *lapsi* occurs in nominative case and alternates with an accusative pronoun in the same context. The partitive object in (22b) shows that aspectual roles do get assigned by V in this construction. It has been noted in the previous sections that -TA- infinitivals appear 'transparent' to case assignment from the matrix verb, evidence that they themselves are non-case-assigning. The absence of either tense or agreement morphology in (22) makes any analysis linking finite verbal features with nominative and/or accusative case difficult. Proposals such as Reime's (1989,1993), which links the assignment of accusative case directly to the presence of verbal agreement, do predict the 'zero-accusative' DP in (22) because the infinitive lacks agreement features, but are less successful in accounting for the accusative pronoun in the same environment.

Another construction which brings up related problems for the current account of nominative case assignment involves infinitival complements embedded within DPs:

- 23) Ole-t-ko kuul-lut Miko-n aikomukse-sta osta-a talo?  
 be-2s-qu hear-ppc Mikko-gen intention-ela buy-TA house-nom  
 'Have you heard about Mikko's intention to buy a house?'

In (23) above, the main clause verb *kuulua* selects an elative case complement, which is realised on the nominal stem form of *aikomus*, 'intention'. Mikko occurs genitive case as the possessor, the lower clause complement of the -TA- infinitive remain in nominative case. Again, no T/M projects within the lower clause, which is embedded under a DP, so the current theory fails to predict the occurrence of nominative case on the object.

However, partitive case may be assigned in the same construction, signalling that aspectual and non-aspectual roles are assigned:

- 24) Ole-t-ko kuul-lut Miko-n aikomukse-sta kirjoitta-a kirje-ttä?  
 be-2s-qu hear-pcp Mikko-gen intention-ela write-TA letter-part  
 'Have you heard about Mikko's intention to write (some of) the letter?'

The strength of the current analysis is that by *not* associating subject agreement (or the licensing of a subject) with objective case, an infinitival verb out of clausal context is predicted to be able to assign accusative and partitive case at D-structure regardless of whether a syntactic subject or any finite inflectional morphology is present. Further research is necessary, however, before a model of case assignment can be developed which can account for all grammatical case assignment in these constructions.

## 6.2 Nominalised clauses

Finnish shares a common property of the Uralic languages in that it allows for a large variety of nominalised clauses (*lauseenvastikkeet*), which have been the focus of traditional Finnish grammar studies for decades. Typical syntactic features of these constructions include categorial ambiguity, a more fixed word order than finite clauses, and the presence of one of several 'nominalising' elements. Moreover, Wiik (1981) summarises the consensus among Finnish linguists and defines *lauseenvastikkeet* as having overt subjects coindexed with Px agreement, and objects whose surface case form does not depend on properties of the matrix clause, thereby excluding -MA- and -TA- infinitivals. In modern Finnish *lauseenvastikkeet* are ubiquitous in formal written registers but infrequent in colloquial speech.

In the previous chapters several hypotheses are proposed to account for patterns of case and agreement that involve the functional projection Tense/Mood. In particular, nominative case in finite clauses is assigned by T/M and the distribution of verbal AGR is linked via c-selection with T/M. Given these properties of T/M, certain predictions can be made about transitive clause types in which T/M fails to project: nominative case will not be assigned, and external arguments (if any) will be coindexed with Px AGR rather than verbal AGR. The data from *lauseenvastikkeet* bear these generalisations out, and provide interesting data toward the study of nominalised constructions cross-linguistically. In this analysis, nominalisations are argued to be governed by ASP,

a functional category unspecified for major category. Following Tait (1991), universal categories N and V are redefined as ARGUMENT and PREDICATE.

The definitive study of non-finite clauses in Finnish is Osmo Ikola's *Lauseenvastikeoppia* (*A Study of Clause Substitutes*) (Ikola 1974). Ikola describes a large number of constructions and provides transformational rules for the derivation of each. Only a small subset of Ikola's *lauseenvastikkeet* are analysed in this thesis, comprising two major types: complement clauses, selected as clausal complements by verbs of perception and thought; and adverbial adjunct clauses, which specify temporal/aspectual information relative to the matrix clause.

### 6.2.1 Complement clauses

Complement clauses are by far the most thoroughly-studied *lauseenvastikke* in Finnish. There is already an extensive body of literature in Finnish grammar which attempts to explain the mixed-category, nominalised nature of the construction (e.g. Ikola 1974). The clause is selected as a complement by a restricted subset of Finnish verbs and shares certain properties of DPs, yet its internal structure is extremely sentence-like. Similar clauses exist in many related Finno-Ugric languages and in Turkic.

A restricted subset of Finnish verbs take complement clauses as arguments. All are verbs of direct perception and recounting (*verba sentiendi et dicendi*), such as *arvata* 'guess, expect', *huuta* 'shout, cry', *katsoa* 'watch' and *toivoa*, 'hope, wish'. Verbs that take complement clauses may alternately take a CP headed by the complementiser *että*:

- 25) a. Aili odott-i            minu-n sano-va-n    vastaukse-n.  
       Aili expect-past/3s my-gen say-pcp/np-n answer-acc
- b. Aili odotta-a, että minä sano-i-n    vastaukse-n.  
       Aili expect-3s that I-nom say-past-1s answer-acc  
       'Aili expected me to say the answer'
- 26) a. Leena näk-i    ole-va-nsa    väärässä.  
       Leena saw-3s be-pcp/np-Px3 wrong  
       'Leena saw that she was wrong'

- b. Leena näk-i, että hän ol-i väärässä.  
 Leena saw-3s that s/he-nom be-past/3s wrong  
 'Leena saw that she had been wrong'

Complement clause morphology consists of a 'weak' verbal stem (i.e. a stem where consonant gradation has been triggered) plus a verbal participle, plus the morph *-n*, which may be truncated if Px agreement appears.<sup>6</sup> The participle can be active or passive and signal 'past' or 'nonpast' tense/aspect relative to the main clause event, as illustrated in (25a) and (26a) above.

The status of the *-n* morph affixed to the participle is the subject of some debate. Similar constructions in Turkish show accusative case on the gerundive clause, evidence that complement clauses are nominalised, case-marked clausal arguments of certain verbs (data from Ouhalla 1991):

- 27) Mary John-un elmalar-i ser-me-dig-ni soyle-di-O  
 Mary John-gen apples-acc like-neg-asp-acc-past say-tns-agr  
 'Mary said that John does not like apples'

In Finnish the situation is less clear-cut. If *-n* were accusative case, it should alternate with partitive case if the clause is negated. However, this fails to occur:

- 28) a. Minä sano-i-n Aili-n ole-va-n kotona.  
 I-nom say-past-1s Aili-gen be-pcp/np-*n* at home  
 'I said that Aili was at home'
- b. Minä e-n sano-nut Aili-n ole-va-n kotona.  
 I-nom neg-1s say-pcp Aili-gen be-pcp/np-*n* at home  
 'I didn't say that Aili was at home'
- c. \*Minä e-n sano-nut Aili-n ole-va-a kotona  
 I-nom neg-1s say-pcp Aili-gen be-pcp-part at home

<sup>6</sup> Complement clauses show very interesting binding effects, in that Pxes may only be anaphoric in all paradigm slots. Pronominal subjects (i.e. those not bound with the matrix subject) in complement clauses must be expressed by genitive pronouns. It is unclear how to formalise such a constraint on Px agreement, although it may be related to properties of the historically accusative *-n* affix.

Objects of negated verbs are invariably assigned partitive case, so the fact that (28c) above is ungrammatical indicates that *-n* is not a productive objective case marker.

Timberlake (1977) examines the history of this construction and finds evidence for syntactic reanalysis. In old Finnish texts, the same set of verbs assigned ECM (accusative or partitive) to the subject of the participial predicate, and the participle agreed in case and number as a modifier. When the genitive case and the accusative case forms in Finnish syncretised, accusative lower clause subjects were reanalysed as genitive, and began to appear with Px agreement. The agreeing participle remained in 'genitive' case.

The suggested constituent structure for complement clauses contains a VP dominated by a functional head which is category ASP. Recall that in finite clauses, PERF projects to host participles when Tense/Mood is supported by an auxiliary:

- 29) Hanna ol-i rakenta-nut talo-a  
 Hanna be-past/3s build-pcp house-past  
 'Hanna had built a house'

The same participial affixes which license PERF in finite clauses also appear in complement clauses, suggesting that they may be categorially related: participial forms in general are typically ambiguous with regard to major category. In (29) above, the participial verb is part of a verbal complex which assigns objective case to and theta-marks its internal argument. Alternately, a participle may function as a predicate in a copular construction, or as an adjective:

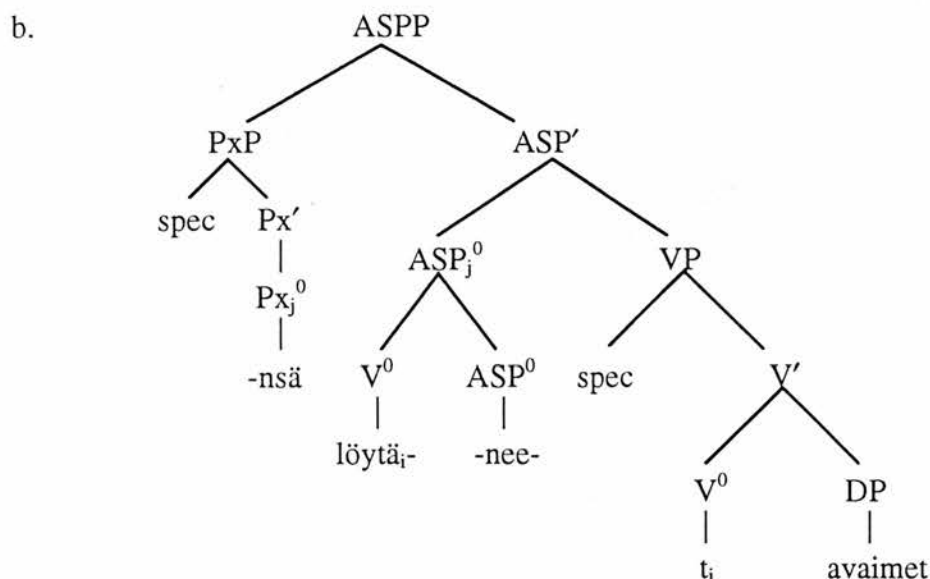
- 30) a. Talo on rakenne-ttu.  
 house-nom be-3s/np built-pcp/pass  
 'The house was built'
- b. Rakenne-ttu talo on vihre-ä.  
 built-pcp/pass house-nom be-3s/np green-part  
 'The built house (the house that has been built) is green'

In (31a) above, the fact that *talo* is not assigned accusative case signals that no aspectual theta-role has been assigned to it by the participle. These facts all suggest that the



lexeme *rakennettu* is not specified for major category; its case-assigning or agreeing properties are determined by syntactic structure. Similar data from English gerunds has led to analyses by Milsark (1988) and Adger and Rhys (forthcoming) wherein 'nominal' and 'verbal' *-ing* in English share a single lexical entry which is underspecified for categorial features. The head ASP in Finnish is assumed to be similarly underspecified.<sup>7</sup> ASP is assumed to share a projection with the historically accusative *-n* affix. The suggested constituent structure for complement clauses is given below:

- 31) a. Arto huus-i löytä-nee-nsä avaim-e-t.  
 Arto-nom shout-past/3s find-past/pcp-Px3 key-pl/acc  
 'Arto shouted that he had found the keys'



By postulating ASP as the head of the construction, several facts can be accounted for. Firstly, Px AGR rather than verbal AGR must encode  $\phi$ -features coindexed with the lower clause's external argument (in this case anaphoric *pro*), because as described in Chapter 5, for AGR to head this structure would violate the c-selectional properties encoded in its f-lexical entry. AGR c-selects T/M as a complement, which does not project in this structure. The external argument instead must be realised as a PxP in the

<sup>7</sup> If ASP is assumed to be underspecified for major category, then there is no need to analyse gerundive constructions in Finnish as involving a major category change from V to N in mid-derivation (as suggested by Baker 1985) or where N dominates V in the structure (Vainikka 1989c), violating Extended Projection.



specifier position of ASP. The head ASP and its specifier are coindexed, allowing the Px to cliticise onto the participial stem.

The second consequence of ASP heading the structure is that no nominative case may be assigned; unlike raising verbs, the verbs that select ASPP complements do not assign ECM to the subject of the lower clause. Instead, regardless of the argument structure of the matrix verb, and whether or not raising of the lower clause subject occurs, no nominative case gets assigned within the ASPP:

- 32) Sinu-n sano-taan löytä-neen avaim-e-n.  
 you-gen say-imp find-past/pcp key-acc  
 'They say that you found the key'

The fact that these clauses are complements rather than adjuncts to the matrix clause accounts for the fact that elements may undergo wh-extraction from the lower clause without violating the ECP:

- 33) a. Kene-t Camilla luul-i näh-nee-nsä?  
 who-acc Camilla-nom suppose-past/3s see-pcp/past-Px3  
 'Who did Camilla suppose she saw?'  
 b. Kene-n hän luuli näh-neen Camilla-n?  
 who-gen s/he-nom suppose-past/3s see-pcp/past Camilla-acc  
 'Who did s/he suppose saw Camilla?'

In section 6.3, similar extractions from another type of nominalised clause violate the ECP, consistent with a hypothesis that they are adjuncts rather than complements.

### 6.3 Adverbial Adjunct Clauses

Two types of non-argument adjunct clauses are analysed here, the 'temporal clause' and the purpose clause headed by the morph *-kse-*. Both function as adverbial modifiers of the main clause predicate and both encode aspectual information relative to the main clause. The morphology of adverbial adjunct clauses is similar to that of the complement clause, consisting of a non-finite ASP element signalling tense or aspect

relative to the main clause plus an inactive case marker. As with the complement clause, the two component morphemes are analysed as fused into a single functional head of category ASP.

### 6.3.1 Purpose clauses

- 34) Hän men-i Suome-en oppi-a-kse-en suome-a  
 He/she go-past/3s Finland-to study-inf-kse-Px3 Finnish-part  
 'He/she went to Finland in order to study Finnish'

The morphology of this construction<sup>8</sup> is somewhat unusual in that the verbal 'stem' is formed from the -TA- infinitive, the same type of infinitive selected by necessity verbs. This is the only construction in Finnish where this morpheme functions as a non-finite stem for affixes, in this case the suffix *-kse-* which is identical to the translative case stem. Like all nominalised clauses in Finnish, agreement is via Px AGR rather than verbal AGR.

The element *-kse-* is homophonous with the translative case stem. The translative case as it exists in modern Finnish is realised by the suffix *-ksi* and in most cases indicates 'transformation into':

- 35) Toukka muuttu-u perhose-ksi  
 caterpillar change-3s butterfly-tra  
 'The caterpillar changes into a butterfly'

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<sup>8</sup> Purpose clauses are identical in form to another construction which occurs with a small set of direct perception verbs:

- i. Muistaa-kse-ni Pekka asu-u Tampere-e-lla  
 remember-kse-Px1s Pekka live-3s tampere in  
 'If I remember correctly Pekka lives in Tampere'

This construction shares the same distribution as adverbs of manner and is assumed to be a lexicalised adverb, since no internal arguments are allowed:

- ii. \*Ymmärtä-ä-kse-ni asia-n Presidentti e-i tiedä mitään.  
 understand-inf-kse-Px1s issue-acc president neg-3s know nothing  
 'As far as I understand the issue the president knows nothing'

When the translative case co-occurs with another morpheme such as a Px, its stem form is *-kse-*:

- 36) Hän rupe-si opettaja-kse-ni  
 s/he start-past/3s teacher-tra-Px1s  
 'S/he became my teacher'

Although diachronically derived from the translative case ending, two facts suggest that the case affix has become lexicalised along with the infinitival stem in this construction and is no longer active. First, the *-TA-* infinitive is not a productive stem for any other cases in Finnish or Px agreement. Secondly, if *-kse-* were the translative case, it should be possible for it to occur word-finally, as in (36) above. A purpose clause with a full DP genitive pronoun and a zero Px ought to be possible, but instead is ungrammatical:

- 37) \*Tanja-n osta-a-ksi kirja-n.  
 Tanja-gen buy-inf-ksi book-acc  
 '...in order for Tanja to buy the book'

In fact, Px agreement in this construction has unusual binding properties; it must occur affixed to the *-kse-* infix in all cases and may be pronominal, but not anaphoric (i.e. subject to Principle A of the Binding Theory, which states that an anaphor must be bound in its governing category):

- 38) \*Men-i-mme Helsinki-in osta-a-kse-ni kirja-n  
 go-past-1p Helsinki-to buy-inf-kse-Px1s book-acc  
 'We went to Helsinki in order for me to buy the book'

It would appear, then, that in the purpose clause the translative case became lexicalised as an infix that cannot occur word-finally.<sup>9</sup>

<sup>9</sup> The lexicalised adverbial adjunct clause described in fn. 8 also shows the same binding properties:

- i. \*Peka-n tietä-ä-ksi sata-a tänään.  
 Pekka-gen know-inf-ksi rain-3s today  
 'As far as Pekka knows it will rain today'

As is the case with all three types of adjunct clauses discussed in this section, wh-extraction out of the adjunct clause appears to result in an ECP violation:

- 39) \*Suome-a-ko      men-i-t      Suome-en   oppi-a-kse-si?  
 Finnish-part-qu go-past-2p Finland-to   study-inf-kse-Px2s  
 'Was it Finnish you went to Finland in order to study?'

Hence Vilkuna (1989) categorises both the final clause and the temporal clauses as 'non-splitting.'

### 6.3.2 Temporal Clauses

The other two adverbial adjunct clauses denote events concurrent with and preceding the event of the main clause predicate, respectively:

- 40) Miko-n      tull-e-ssa      koti-in   oli-n   nukkumassa.  
 Mikko-gen come-e-ssa home-to was-1s asleep  
 'As Mikko came home I was sleeping'
- 41) Minä lähd-i-n      sinu-n   tiska-ttu-a-si  
 I-nom leave-past-1s you-gen wash up-ttu-a-Px2s  
 'I left after you had washed up'

The first temporal clause construction is formed with the affix *-essa/-essä*, which can be further subdivided into two morphemes: the 'second infinitive' *-e-* and the inessive case *-ssa/-ssä*. The 'second infinitive' selects only two case forms in Finnish, the inessive and the instructive, and always conveys a notion of simultaneity. The second temporal clause construction is composed of the past passive participial verb form *-TTU* plus an affix which was historically the partitive case ending *-a/ä*. Like several of the other nominalised constructions discussed in this chapter, the nonfinite affix and the case marker in both these constructions are analysed as a single syncretised morpheme belonging to the functional category ASP.

As is the case in purpose clauses, extraction from the adjunct clause results in an ECP violation:

- 42) a. \*Kene-n söi-t päivällis-tä tull-essa kotiin?  
 wh-gen ate-2s breakfast-part come-essa home-to?  
 'Who<sub>i</sub> were you were eating breakfast while t<sub>i</sub> was coming home?'
- b. \*Mi-stä söit päivällis-tä Miko-n tull-essa  
 wh-ela ate-2s breakfast-part Mikko-gen come-essa  
 'From where<sub>i</sub> were you were eating breakfast while Mikko was coming t<sub>i</sub>?'

WH-extraction may also license a projection of CP:

- 43) Kenen tull-essa koti-in söi-t päivällistä?  
 wh-gen come-essa home-to ate-2s breakfast-part  
 'Who came home when you were eating breakfast?'

Note that in contrast to the purpose clause in (35), temporal clauses do not require Px agreement (41).

### 6.3.3 Syntactic properties of adverbial adjuncts

All three of the constructions described in this section share certain syntactic properties, namely that they do not allow negation, auxiliaries or nominative subjects; they take Px agreement; they do not allow extraction out of the clause; and they all signal a particular tense/aspect relation to the main clause event. Although distinct in morphological composition and binding properties, Hakulinen and Karlsson (1979:388-91) categorise them together as non-finite temporal adverbial clauses. All of these facts suggest that T/M fails to project in these constructions but that ASP does project, and that their structural relation to the main clause is that of adjunction. The constituent structure of all three of these clauses is assumed to be identical to that of the complement clause analysed in (36b) above.<sup>10</sup>

<sup>10</sup> Vilkuna (1989:222) also describes these constructions as being underspecified for major category, labelling them as category ADVERB.

## 6.4 Conclusion

The various complex predicates and nonfinite constructions briefly discussed in this chapter show a variety of case-related phenomena that are predicted by the hypotheses set out in the first five chapters in this thesis. Data from complex predicates support the link between the lack of an external argument and the split-case pattern visible in simple predicates: finite matrix verbs that license an external argument govern the complement of the lower clause and assign accusative case, but if no external argument is licensed by the matrix, lower clause objects show the familiar alternation between nominative and objective cases. However, data from infinitives out of clausal context proved difficult to account for within the current analysis of nominative case assignment. Certain facts about transitive nominalised clauses are shown to be predicted by the failure of Tense/Mood to project: no nominative case is assigned within the clause, and external arguments are coindexed with Pxes rather than verbal AGR. Nominalising morphology was shown to exhibit a tendency to incorporate an aspectual or infinitival element with an inactive case affix. These syncretised morphemes are analysed as projections of ASP, underspecified for major category and allowing Px agreement to occur in specifier positions.

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